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FIVE LECTURES ON THE PROBLEM OF MIND

BY

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PREFACE

In the spring of 1924, the Graduate Council, acting for the General Faculty of the University of Texas, honored me with its nomination for the University Research Professorship during the academic year 1924-1925. The primary purpose of this professorship is to give the incumbent one year, in some measure freed from the routine duties of the average scholastic year, during which he may have the opportunity to apply himself more assiduously to investigations that at the time claim his interests. One of the obligations imposed upon the appointee is that he shall deliver, in the spring of his year of incumbency, not more than five public lectures, in which he undertakes to present such aspects of his problem and his views thereon as might seem to him of somewhat general concern. The following lectures are the result of the author's effort to fulfill this obligation.

The lectures are printed as delivered, except for a few minor changes. They were written for a general audience, one for the most part not trained in technical philosophy and largely unacquainted with its history. This accounts for the method of approach and for the material dealt with in the course of the discussions. I purposely avoided the more metaphysical aspects of the problem as lying outside the interests of those who would likely hear the lectures, though the phases of the problem considered are, to be sure, not without their ultimate implications. I also tried to write as untechnically as possible and to link considerations of principles with some suggestions of application. In short, the lectures were written for the lay hearer; no thought of a larger audience was at the time entertained.

When the question concerning the publication of the lectures arose, it was my first thought that they should be published (if at all) only in connection with an extensive critical survey of the literature and a further following of the ramifications of the problem. But to do this promised to necessitate considerable delay; and since it seemed that the lectures might in themselves have some permanent value as a semi-popular treatment of certain phases of the problem, it was finally decided to print them without any extensive revision or additions. I have tried, however, to supplement the discussions by occasional references to the literature in footnotes and by the addition of two short appendices directing attention to views that are at variance with the point of view of the lectures on at least two basal considerations. It is my purpose in the future to discuss the problem in greater detail, with special reference to its more technical epistemological and metaphysical bearings.

The trained reader will readily see that, while I am in many respects in close agreement with the position advocated by Bosanquet and those who think like him, there are nevertheless some points of difference between us that have epistemological and metaphysical implications of importance. How much I owe to Bosanquet for my views on the problem of mind I cannot say; I only know that one or two basal points on which we are in agreement were arrived at by me independently of any conscious following of Bosanquet's writings, and I believe the differences between us are not negligible.

I wish here to express my obligations to the Graduate Council and the Committee on Publications of the University of Texas. To the former I am indebted for the, to me, delightful occasion of these lectures; and it is by the authorization of the latter that the lectures are published by the University of Texas.

G. W. C.

Austin, Texas, May, 1925.

TABLE OF CONTENTS

LECTURE I. PRELIMINARY SURVEY

Once upon a time, so the story runs, a ship set sail from a port in Utopia for a voyage into unknown seas. After weeks of devious fortune the ship was wrecked off the shore of a rock-bound island. Three alone of the crew survived the disaster, and they were cast half-drowned out of the sea. The island upon which they found themselves when they regained consciousness was a very rough and rugged island covered even to the shore with what appeared to be an impenetrable jungle that soon lost itself in an intricate range of mountains beyond which the eye could discern nothing but the limitless expanse of the horizon.

The three survivors were of quite different temperaments. One was a happy-go-lucky soul who loved ease rather than adventure, and who tried to find complete enjoyment in the possession of whatever through fortune he might call his own. He had entered upon the ill-fated voyage solely because he had been persuaded that greater pleasures awaited him at its end and that all would be clear sailing with no adverse winds to meet. Another was so thoroughly in love with the homeland that he was wont to look upon even the spirit of adventure as a sort of treason. He had done his best to dissuade his fellows from the voyage; but, having failed in that, he had embarked upon the foolhardy expedition in the hope that he might hold the voyagers true to the traditions of Utopia and prevent them from acquiring an alien outlook that might on their return dangerously arouse the curiosity of those who had remained at home. The third survivor was an adventurous soul whose blood tingled at the very thought of ranging abroad and penetrating into the unknown; he it was, in fact, who had conceived the enterprise and captained the voyage.

Spurred by his love of adventure, the third of our three upon awaking planned an immediate expedition for the

purpose of exploring the interior of the island. He wished to attain the summit of the distant mountain-range, from which he might survey to better advantage the main features of their new abode. His two companions conjointly raised objections, though for quite different reasons. The first urged that it was fairly comfortable where they were on the shore, that they could secure there sufficient food and readily build of the driftwood huts for their protection, and that it was consequently wholly unnecessary for them to expose themselves to further hardships. The second suspected that the island might be inhabited by a people with a social order radically different from their own and with a language strange to the ears of Utopians, and he insisted that they should therefore patriotically refrain from exploring it and turn their gaze westward whence they came. Despite these protests, however, the adventurous one wended his way inland, leaving his two companions behind on the shore—the one to enjoy himself as best he could under the circumstances, the other to deplore the explorer's lack of loyalty to the old ideals and institutions.

After many days the wanderer returned and related to his companions the story of the wondrous things he had seen and the discoveries he had made. In the interior of the island, he said, a new world opened, different in many respects from the land of Utopia; and he hopefully invited his companions to follow him back into this new world. The happy-go-lucky one, convinced that he could enjoy himself there better than on the bleak shore, agreed forthwith to follow, and was even impatient to be on the way. The other, however, stoutly refused to go himself and maintained that if the others returned they would utterly fail in loyalty to the homeland; it were far better, he contended, that they stay as near the shore as possible and hail the first ship that might carry them back to the port whence they had so foolishly sailed. Turning a deaf ear

to his pleadings, the two departed and soon lost themselves to his view in the midst of the jungle which to him seemed so uninviting; the leader, he began to suspect, was a knave, while the pleasure-seeker he pitied as a simple dupe.

Humanity, I imagine, is at least in some respects not unlike our shipwrecked mariners on a strange shore. Born into a world of which he is totally ignorant and which is full of perplexities that disturb and trouble him, ignorant, also, of his own nature and destiny, man must wend his way as best he can through the tangle of problems out, and ever out, into the unknown. Such is the intricacy of these problems, every step in the solution of one leads to numerous others yet demanding solution. Occasionally the question is raised whether further progress, even if possible, is after all worth while. Are not our present needs satisfied? Do we not know enough to live comfortably, even luxuriously? What more, then, is wanted? Why all this fuss about the unsolved mysteries of the world? It is all well enough to be curious about them, but is their solution worth the effort? Were it not better for mankind to follow the teachings of old Epicurus and find satisfaction in that undisturbed tranquility which he preached as the *summum bonum?* Such easily satisfied minds are wont to accept the views that are fashionable and respectable in their own day and therein to rest content. Though not consciously, they would nevertheless make ignorance a virtue and indirectly penalize progress. Others, however, raise the question, not whether progress in the solution of our problems is practically worth while, but rather whether it is not positively dangerous. Does it not necessitate continuous change in customs and traditions, and thus involve a basal disloyalty to old Utopia? May it not even ultimately spell disaster? Too much science, they are prone to urge, may yet drive us to destruction; they see red in an unbounded curiosity. But, fortunately for the human race, there are at least a few hardy spirits who march breast-forward with their faces resolutely

set in the direction of the unknown; the tangle of problems before them presents a challenge which they cannot resist. It is to these pioneers of the intellectual adventure that humanity owes both the little progress that has characterized its relatively brief history—a progress which, after all, is not inconsiderable—and the promise of further progress. Some day, perchance, if the sands run long enough in humanity's hourglass, the magnitude of this debt will be more generally recognized. Hitherto, it must be confessed, there has been but poor appreciation of it; the Holy Office of the Inquisition is only of yesterday, and its echoes still rumble about our ears.

Among the numerous problems that confront the intellectual adventure of humanity, some are more fundamental than others. What distinguishes a more from a less fundamental problem we do not ordinarily stop to inquire, though it is fairly obvious that the distinction is a valid one. We all recognize and frequently make use of the distinction. In specific instances, undoubtedly, we are not infrequently uncertain; to put first things first, as we say, is often difficult in practice. But it is so because we are not clear in theory as to what things are really first; we remain convinced, nevertheless, that there are first things and that they should be given precedence over the less fundamental ones.

Broadly stated, one proposition or notion is logically fundamental to another when the truth of the first is necessary to the truth of the second, or when a comprehension of the first is essential to a comprehension of the second. Thus, the elimination of friction is logically fundamental to the invention of a perpetual motion machine, since the existence of the latter presupposes the accomplishment of the former; and the notion of gravitation is logically fundamental to the motion of an object through space, since an understanding of the latter necessarily involves an understanding of the former. If X must be true or understood

in order that Y may be true or understood, then X is logically fundamental to Y.

The complexity of the world is such that some truths or problems are of quite foundational character. These are the truths or problems upon which many others depend. From such truths and problems hang many lesser ones; they are the foundations upon which many superstructures are built. By fairly common consent there are two general problems that seem to be among the most fundamental with which we have to deal. These are the problems presented by what we ordinarily call matter and mind. They have been prominent in European thought since the dawn there of a reasoned consideration of man and his world. Search the development of this thought as you may, you will find numerous traces of these problems deeply stratified within its structure; and the more prolonged your search, the more numerous these traces grow. Nor is there any great difficulty in understanding why this should be. Matter and mind are basal features of the world-order. Let thought dip into that order at any point, and it is forthwith started upon an inquiry that leads by inevitable stages back to the problems of matter and mind. For this reason they are regarded, and rightly so, as being among the most fundamental of our problems.

All fundamental problems are relatively difficult to handle. Even a child can understand that fire is hot and will burn; but the burning of fire is wholly beyond its comprehension, while the principle of oxydation falls within the clear grasp of the scientist only. There is no great difficulty involved in understanding that two apples added to two apples make four apples, but the nature of the number system which underlies the equation, $2+2=4$, is not thus readily compassed. As we dig down to fundamentals, difficulty of comprehension increases apace. And when we approach the most fundamental problems of all, we find ourselves confronted by more and more formidable, and

what at times appear to be insurmountable, obstacles to further progress. This fact is commonly recognized, and it is not infrequently taken as ground for a certain sort of intellectual pessimism. So long as we scratch around on the surface of things, we seem to ourselves to attain a fair degree of certainty; but let us presume to enter seriously upon the search for fundamentals, and our doubts and perplexities at once begin to thicken. The solution of one problem then gives rise to a host of others demanding solution; and the farther we proceed the more labyrinthine do these problems become. Is the intellectual enterprise, therefore, worth while? Does it not, in fact, defeat its own end? Can the human mind keep hold on the thread of Ariadne? Such pessimistic questions, though natural in certain moods, are, in point of fact, based upon a false assumption—the assumption, namely, that we are most certain of those matters about which we think least, and that such certainty is the goal of intellectual endeavor. But such certainty is nothing more than a comfortable feeling which is possible merely because we have not been intellectually disturbed; it is what has been properly called "primitive credulity." If such be the certainty we should seek, then our salvation lies in the attitude of the primitive mind, which accepts everything with but little questioning; civilization is our very worst enemy, and we should, with Rousseau, resolutely and persistently raise the cry, "Back to Nature!" This assumption is false, however, if intelligence has any intrinsic value; for intellectual activity consists precisely in doing away with such primitive credulity and substituting in its place either the attitude of an open mind or a type of certainty resulting from serious logical analysis. And I presume most of us at least would agree that intellectual activity, the effort to arrive at logical certainty as distinguished from such primitive credulity, is worth while on its own account—that here, as generally elsewhere, "the main prize is in process."

The pessimism above mentioned is most pronounced when we come face to face with the basal problems of matter and mind. For these problems have long troubled man's tranquility of mind, and they remain to this good day unsolved. Whether they will ever be completely solved may perhaps be legitimately questioned. Why, then, bother with them? This question inevitably presents itself to the intellectual pessimist. But to one who has faith in the intrinsic value of intellectual endeavor the answer to such a question seems even obvious: we must bother with them because we cannot help doing so, and because doing so is its own justification. Enmeshed in their net as we are, even though they be insoluble, they will continue to pique our curiosity until we have lost interest in ourselves and our environment or until the crust of our little planet breaks.

The fact remains, however, that these problems are being progressively solved. In the presence of an audience such as this it is largely gratuitous for me to say that much work has been done in connection with each and many discoveries made. It is evident that we are not so baffled by them as were the ancient Greeks who bequeathed them to us; we are much farther along the way than the ancients were. The scope of the compass that has meanwhile been fetched is indicated by the brilliancy and the magnitude of the of the achievements associated with the names of the great adventurers from Democritus to Einstein, on the one side, and from Plato and Aristotle to our own James and Royce, on the other. We have learned that matter and mind are not so sharply sundered as we formerly supposed. We have got beyond the notion that matter is featured primarily by its grossly spatial qualities, as Descartes maintained; we have even got beyond the notion that matter is reducible to a limited number of atoms, each ultimate and unanalysable, as was until comparatively recently held. We have also learned that mind is not an entity such as the Scholastics

supposed it to be, or a pure thinking substance as the Cartesians defined it; we know that it has many features quite different from those emphasized by most of the older theories, and we are beginning to glimpse a connection between mind and matter much more intimate than has hitherto been imagined.

But however much work has been done, much remains to be done. We know many things about matter and mind the ancients did not know; much that is to us commonplace lay wholly beyond the horizon—sweeping as it was—of Democritus, Plato, and Aristotle. But it requires only a sane vision to see that our present knowledge is vastly exceeded by our ignorance. As in the days of John Locke, so now, and so perhaps will it ever be: "He that knows anything, knows this in the first place, that he need not seek long for instances of his ignorance."[1] The vivid figure of Sir Isaac Newton still applies: we are but as children sporting ourselves on the shore, picking here and there a pebble of information while the great ocean of truth lies undiscovered before us. But the boundaries of our knowledge may be indefinitely extended and the ocean of truth by degrees plumbed, as Locke further sagely observes, "if men would sincerely, and with freedom of mind, employ all that industry and labor of thought in improving the means of discovering truth, which they do for the colouring or support of falsehood, to maintain a system, interest, or party they are once engaged in."[2] And herein is to be sought the basis for a sound optimism; not in what we already know, but in our will-to-know, lies the promise of our intellectual future. And whatever or whoever shackles this will thereby points in the direction of primitive credulity and night.

The series of discussions upon which we are now entering does not presume to survey these two basal problems. Time

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[1] *Essay Concerning Human Understanding*, Book IV, iii, 22.
[2] *Ibid.*, Section 6.

alone would prevent such an undertaking, not to mention the lack of competence on the writer's part for it. It is the problem of mind in which we are exclusively interested. But even here the field must be greatly circumscribed; the circumstances of the occasion necessitate this. I have, therefore, arbitrarily chosen to confine the studies to a consideration of some quite general aspects of mind concerning which I have deemed it possible to say something fairly definite in the time at our disposal.[3] With these we shall begin at the next hour.

I have said above that the problem of mind is one of our most fundamental problems, and I wish now to return briefly upon that observation. That the observation is true seems to admit of no dispute. Indeed, to say that the problem of mind is our most central problem appears, to me at least, to be no great exaggeration of fact. For the problem ramifies in widely divergent directions and underlies many of the most important debates in which we are all at present vitally concerned. Certainly, the problem is central in the social order; and I know not where one might look for a problem more central in the broad riddle of the universe. Let us dwell upon this point for a few minutes, beginning with the social significance of the problem.

Social evolution has historically been characterized by an ever-recurring controversy whose tremendous sweep no one can reasonably deny. I refer to the controversy between the ideals of radicalism and conservatism that marks the course of our social life. We all know the main issues here at stake. The conservative places primary emphasis upon existing institutions, lauding them often at the expense of the individual, and he seeks for the ideal within the comprehension and enjoyment of tradition, of the best that has hitherto been thought and done. The radical, on his side,

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[3]It is the writer's purpose to supplement this general discussion by a somewhat detailed inquiry into the technical aspects of the problem of mind in another volume.

places the emphasis upon acquisition and attainment, initiative and creative endeavor, and he seeks the ideal within the scope of the individual's own activities. The conservative prefers to follow the beaten path, the radical is anxious to blaze new trails; the conservative is at heart a devotee of the past, the radical gives his loyalty to the future; the conservative delights in the stability of the *status quo*, the radical breathes most freely when blown upon by the winds of change; the conservative tenaciously clings to the old, the radical thrills at the very prospect of novelty; the conservative is a lover of institutionalism, the radical glories in individualism. It will, of course, be understood that I am here contrasting ideals rather than persons. There are few ultra-conservatives, though the species is not wholly extinct; and the ultra-radical is fortunately not legion, though there seem to be signs that his tribe is rapidly increasing in these latter days. There is a touch of both radicalism and conservatism in the majority of us. But as social ideals, radicalism and conservatism are antithetical and their paths sharply divergent, as I have ventured to describe above.

The scope of the controversy between these social ideals is far-flung. Civilization is its battleground, human beings its vehicle, and history its story. And the shock of the conflict is felt in moral, religious, economic, political, educational, and scientific endeavor — everywhere, in fact, where the mind of man is busy weaving its destiny. Nothing social lies beyond its vortiginous whirl; every age is touched by it, and no individual completely escapes it. The sundry political and economic wars that crowd the pages of history, classicism and romanticism, scepticism, mysticism and rationalism, the Renaissance, the Reformation— these are but monuments to the universality of the conflict's sweep through human relationships. And the martyrdoms done from the days of Socrates down bear tragic testimony

to the fact that the individual units of society are not untouched by the swirl of its winds. Wherever man is found struggling towards the light, there radicalism and conservatism are found in conflict with each other and the shock of the conflict is felt throughout the social structure.

Now I submit that the problem of mind is logically fundamental to any attempt to resolve the conflict between those opposing ideals. For what is the genesis of the conflict? It arises out of different conceptions of the way in which mind is made and its ideals realized. And there is no final answer to the question as to where the emphasis properly lies that does not take into the reckoning the nature of mind in whose behalf the controversy is waged. Radicalism and conservatism are founded upon antithetical assumptions. The antithesis will remain, one cannot but feel, until analysis resolves the situation out of which it arises; and such analysis leads unswervingly to the problem of mind itself.

The truth of this general contention may be more clearly perceived if we view the controversy at close range by scrutinizing a detailed example of it. Instances might, of course, be chosen from any field of social life—from economics, from politics, from art, from religion, from philosophy, and even from the more exact sciences. One example must suffice, and I take it from the field of educational theory and practice.

Surveying the educational situation of twenty years ago and noting the conflicting views concerning the aim and methods of education, Professor Dewey wrote as follows: "We have hundreds of reasons against this study or that, but no reason. Having no sense of the unity of experience, and of the definitive relation of each branch of study to that unity, we have no criterion by which to judge and decide. . . . Lacking a philosophy of unity, we have no basis upon which to make connections, and our whole treatment becomes piecemeal, empirical, and at the mercy of external

circumstances."[4] Broadly speaking, this seems to be as true now as it was in 1904. To be convinced of this, one has but to look abroad upon the present status of the controversy over the merits of so-called "liberal" or "cultural" education as against those of "professional" or "vocational" training. It is true that many changes have in the meanwhile been wrought. Professional subjects have gradually forced themselves into the curriculum over the protests of the culturalists, and the cultural subjects have been progressively placed on the defensive. These changes have come about, however, not through evolution, but through revolution. There has been a tremendous amount of elbowing in the process, but there has been little systematic give and take. First, the pure sciences nudged their way into the system in spite of the classical tradition, and they have not been slow in forcing the tradition to the wall. Then came the applied subjects, which have made their presence felt so forcefully that even the pure sciences are threatened with servitude to the professions while the poor culturalist, beset behind and before, is much exercised to prevent his tradition from being sent bodily into the wilderness of bygone superstitions. The camel, having succeeded in getting first its nose and then its body into the tent, latterly seriously threatens to occupy the center of the stage in all three rings of the circus. Now I am not concerned to inquire here whether this melee has been fortunate in its results; into the merits of the controversy we do not at present enter. I am interested, rather, merely to emphasize the fact that it is a melee, a vigorous pushing about without any very great amount of intelligence operative in the process. To be sure, there has been no dearth of argument on this side and that; indeed, the din of argument has resounded unto the heavens, many reasons are advanced *pro* and *con*. But what seems to be lacking is, in Professor Dewey's

[4] *The Educational Situation*, p. 18.

phrase, *reason*—a systematic view in terms of which the claims and counter-claims of the contestants may be weighed and evaluated. Hitherto temperaments and prejudices born of tradition and accidental circumstances have largely, if not entirely, controlled the situation; particular pet subjects have been of primary, if not exclusive, concern; and, as was inevitable under the circumstances, the controversy has resulted in far more heat than light. What is needed is a "philosophy of unity"; and a philosophy of unity here means a philosophy of mind.

The logic of the situation seems quite clear—indeed, almost simple. Suppose you confront me with this proposition: The fundamental aim of education can be attained only through study of the cultural subjects typified, let us say, by the traditional three *R's*. How may I logically controvert your position? Certainly not by pointing out the lack of utility (in the narrowly practical sense) of the classical tradition; and certainly not, once more, by denying that such subjects have value as formal disciplines. For your thesis is not at all necessarily concerned with the practical utility or the disciplinary value of the classical subjects, though you may have your convictions on these matters. Your contention fundamentally is that the study of these subjects results in the type of education which you regard as the ideal towards which the training of institutions of learning should be directed; and it is fairly obvious that neither of the above retorts touches this contention. Or suppose that I, on my side, take my stand on the thesis that the aim of education can be attained only or primarily through the study of subjects that have a professional or vocational bearing immediate or remote, and that the educational value of a subject of study is directly proportional to such practical implications of it. It is clear that you cannot logically dislodge me either by heaping ridicule on my "pig-trough" philosophy or by shrugging your shoulders at my apparent lack of appreciation of the past achievements

of the race. For my thesis is precisely that education should be utilitarian and that those subjects which have no utility when measured in terms of the present business of living are educationally worthless; and this thesis is not to be upset by ridicule or a shrug of the shouder. The plain truth is that the main issue between us converges upon the very aim and purpose of education itself; and until we frankly face this issue and honestly reason it out, our arguments will simply stare at each other and never come to grips. We may debate as long as we please and hurl epithets to the limit of our professional vocabulary, but nothing will come of it all save a widening of the breach. We must first inquire what the educative process is before we can presume either to set up an ideal of what at its best it should accomplish or to determine the most appropriate means thereto. But—and this is the point I wish here particularly to emphasize—this cannot be done until we dig down to the nature of mind. For the educative process is nothing but mind in the making; and the latter is definitive of the former, and not vice versa. So long as we talk about education as if it were some sort of entity always the same and definable in its own right, just so long are we confusing ourselves with a meaningless abstraction and beating the air in vain. Education means nothing, or it means the educative process; and the educative process is mind. The problem of mind is, therefore, logically fundamental to the problem of the education of mind; and to discuss the latter without reference to the former is bootless. Any conclusion resulting from such discussion will grow largely out of purely circumstantial considerations, and whatever practical adjustments are agreed upon will likely come from the necessities of compromise.

If time permitted, it would not, I think, be difficult to add to the instance above discussed others, chosen from different fields of the social order, which would as clearly substantiate the thesis now before us, namely, that within the social

order the problem of mind is of basal importance. But this cannot be here done, and I shall conclude this phase of our introductory remarks by calling your attention to the fact that the problem of mind is also of basal significance in the broader field of metaphysical inquiry. The centuries-old controversy between materialists and idealists focalizes around the problem of mind; and the more recent debate between vitalists and mechanists is at bottom concerned with essentially the same problem, being in principle nothing more than a new formulation of the old antagonism. Mind, life, and matter are genetically joined; in the temporal series they are linked with each other in a peculiarly intimate fashion and may not, without violence, be sharply sundered. The problem of mind, thus, is indissolubly bound up with the problem of the world-order. And since mind seems to be a privileged case as a starting-point for thought, the problem it presents naturally assumes a privileged position in the metaphysical enterprise—the enterprise whose goal is a reasoned consideration of the world. One's philosophy of the world is logically intimately linked with one's philosophy of mind. But into a further consideration of this aspect of the matter there is now no time, as fortunately there is no necessity, for us to enter.

In conclusion I desire to make a few observations upon the difficulty which the problem of mind, because of its logically fundamental nature, presents to serious analysis. These observations may at least serve to warn us against over-confident and hasty generalizations.

There is a popular prejudice, of ancient lineage, that everybody knows, or with but a very little attention may know, what mind is. Why this prejudice should exist is not difficult to understand. We all have minds; we are constantly speaking of mind, and our familiarity with the word has given rise to the supposition that we are all familiar with the content for which the word stands. Let a man but turn his gaze upon himself and see what his mind

is. What further is needed? It is quite often assumed that nothing further is needed, and that any attempt to go further is to amuse oneself with idle speculation. The jocose remark that psychology expresses what everyone knows in language which no one can understand, is simply an exaggeration of the prejudice. The point I wish now to emphasize is that this is a prejudice and an unjustifiable one. It rests upon the assumption that mind may be completely seized in the embrace of a direct glance, and this assumption is in point of fact erroneous.

I presume we are willing to admit at the outset that some things are more complex than others. A watch, for instance, is more complex than a knife; the watch has more parts, and they are joined together in a much more intricate manner. As compared with a living organism, the watch is itself quite simple; the parts of the organism are, as it were, wheels within wheels and their interconnection is exceedingly subtle. That things vary thus in complexity is a fact well known. Now mind is one of the most complex of things. It does not exist all in a lump like a watch or a knife; a "wooden" mind is very different from a block of wood, and the current slang of "solid ivory" we recognize as a metaphorical travesty even on the type of mind to which the metaphor is usually applied. The complexity of mind far outruns the complexity of any mechanism, however complicated it may be; it is much more complex than even the most highly developed biological forms. It is a thing of degrees and variations; it ebbs and flows—more here and less there, more then and less now. There is more of it among mankind than there is among the brutes, more in the adult human being than in the child, and in one and the same individual it waxes and wanes. In short, mind lives within the temporal series and winds through it with puzzling intricacy; and it manifests itself in varying degrees at different levels. Furthermore, its manifestations at any given level are manifold and closely interwoven; they do

not lie loosely side by side, they are somehow bound into an intricate unity. It would, indeed, be difficult to find an instance of greater complexity or of more subtle unity than is presented by those sinuous phenomena which we designate by the word "mind."

One of the most convincing evidences of the very great complexity of mind may be found in a characteristic of contemporary psychology which at first strikes the casual observer as peculiarly puzzling. And that is the wide divergence of view among psychologists themselves concerning the proper field of their science. Some hold that the field of psychology is the very broad field of the self and its activities; others eliminate the self and limit psychological inquiry to the "stream of consciousness"; still others maintain that psychology must confine itself to a study of objective behavior and quit bothering itself about so-called "consciousness" or resign itself to the fate that has befallen alchemy and astrology; while others seek the proper field of psychology, at least its basal principles, within the subterranean depths of sub-consciousness. There are several reasons for these differences of opinion among psychologists, some of which are historical; but the merits of the controversy do not here concern us. The point of interest in the present connection is the simple observation that the controversy gives unmistakable evidence of the great complexity of mental phenomena. Broadly speaking and without reference to the question of the most fruitful method of procedure for the science of psychology to follow, each of the above groups would seem *prima facie* to be correct in what it affirms; for mind apparently presents the features emphasized by each, and may, presumably, be legitimately studied from each of the several angles of approach. Mind is an exceedingly complex set of phenomena characterized by very diverse qualities and inviting analysis from many different directions.

Now from this complexity of mind there immediately

follows the conclusion that mind cannot be completely envisaged through direct observation. Let a man look within himself as long and as intently as he pleases, and he will, as a result, be little the wiser concerning the nature of his mind. In this manner he may doubtless gain some acquaintance with more or less significant aspects of mind, but he will thereby get no clear conception of the real nature of mind; he will certainly miss all of those characteristics which some psychologists look upon as constituting the main, if not the exclusive, content of mind. Whoever supposes that mind may be completely and comprehensively seized by an introspective act (whether casual or prolonged) or by an elaborately contrived experiment or series of experiments, is deceiving himself; he might as reasonably expect to gain significant acquaintance with a nation's government by gazing about the capitol for a day or a week, or to acquire full knowledge of the intricacies of the living cell by the simple device of looking at its parts through a high-powered microscope. One cannot say of mind: "Lo here!" or "Lo there!" Its very complexity defies such direct seizure.

What is here said about the impossibility of compassing the full nature of mind in the immediate embrace of a direct look, or series of such looks, is, I would have you note, nothing recondite or technical. It is a statement of a principle upon which we are constantly acting, for it holds of any thing that presents the quality of being complex. The old fable of the six blind men and the elephant is instructive in this connection. You recall the story:

> It was six men of Indostan
> To learning much inclined,
> Who went to see the elephant
> (Though all of them were blind),
> That each by observation
> Might satisfy his mind.

One of them, you remember, seized the elephant by the ear and concluded therefrom that the animal was in shape very much like a fan; another, having seized a tusk, was convinced that the elephant resembled a spear; to a third the elephant presented the appearance of a snake, since he had got hold of the snout; the fourth, touching the broad side of the animal, conceived him to present the appearance of a house; the fifth, who had hit upon the tail, had no doubt that the elephant was very like a rope; while the sixth was certain that the elephant was, in point of fact, like a tree, since he had specialized on the feel of the animal's leg. Each observer assumed that the shape of the animal was analogous to the shape of that particular part which he had directly observed, forgetting meanwhile that the nature of the whole may, in many important respects, be different from the nature of the parts.

Of course, you will not misunderstand me here to be committing myself to the absurd position that observation plays no essential part in the understanding of mind. My contention is that observation alone, observation unsupplemented by interpretation of one observation in the light of the results of other observations, carries us only a very little way toward the goal. As a starting-point observation is, of course, indispensable; no step in advance can be taken without it. But it is only a starting point; it must be eked out by inference; that is, the general principles involved in what is observed must be carefully spelled out and formulated. To put the matter in figurative language which is only partially adequate to express the facts, a ladder must be built on the groundwork of observation reaching up toward the nature of mind; and unless the ladder is built the nature of mind cannot be reached. The process of building the ladder is the logical process of inference—the following out of the implications and correlative meanings of the various results of observation. This is precisely the method which we employ in every case where our knowledge

leads beyond the reach of the first look—that is to say, it is the method of all science. There is in it, therefore, nothing unusual or strange; it is simply the essence of reasoning. I have thought it worth while to emphasize the principle partly because there are more or less marked tendencies in contemporary discussions of the problem of mind to overlook it, but primarily because it indicates the method which we shall follow in our later discussions. Starting with the observable features of mind, we shall be concerned to read out of them what they imply concerning the general nature of mind. This, it must be repeated, can be done only very partially since time is lacking for anything like a thorough survey. But we shall at least be able to touch the edges of a few main characteristics of mind to which logical inference based upon the observable aspects of both individual and social mind would seem to point. It is to a consideration of a few such general characteristics of mind that I invite your attention in the discussions that are to follow.

LECTURE II. DOES MIND EXIST?

In one interpretation the question, Does mind exist? is an idle and even a foolish question; while in another interpretation the question brings us at once into the heart of a controversy which is centuries old and which in recent thought has been revived with considerable vigor. If the question is supposed to inquire whether the word "mind" has an intelligible meaning, whether it refers to an actually existent somewhat, then the question may at once be set aside as unworthy of serious consideration; no one has ever doubted that the word "mind" has a meaning. But if the question is understood to ask whether the commonly accepted view of mind is true in point of fact, then it formulates a problem which is now, and for ages has been, of basal importance in philosophical and psychological theory.

The main line of European thought on the problem of mind has remained steadfastly by the position that mind is a unique sort of reality with a structure and functions of its own. This was the conviction of Plato, and, in a somewhat modified sense, of Aristotle; it was the underlying assumption of Scholasticism; it was the one certainty which Descartes held to be indubitable and which, in its fundamental features, remained unshaken by the vigorous skepticism of Hume; and it has continued to be basal in the classical tradition even down to our own day. To be sure, mind has in this tradition been variously defined; there is by no means general agreement as to its detailed characteristics among those who are agreed as to its uniqueness. But that mind is a phenomenon, or set of phenomena, describable only in mentalistic terms, has never been questioned by this group of thinkers, whom we may for convenience of reference call the *mentalists*. And their view is known as the classical view because it has become deeply

imbedded within the philosophical and psychological tradition—so deeply imbedded, in fact, that it presents itself nowadays as the view of common sense.

But, despite its predominance in the historical tradition, not all thinkers have been willing to subscribe to the thesis of the mentalists. From time to time there have appeared those who insist that mind is of the same stuff of which body is composed and that its functions are in nowise different from bodily processes and responses—that, in short, mind is materialistic and not mentalistic. Those who hold this view we may here conveniently name *materialists.*

Among the ancient Greeks, Democritus is the most notable exponent of materialism. In its structure mind, he holds, is nothing more than a collection or aggregation of material elements, and its functions are simply physical movements among the elemental "atoms" that make it up. This same point of view, with variations in terminology necessitated by advancing physical and physiological knowledge, has found frequent advocacy in modern thought from the days of Hobbes. We all doubtless recall the oft-quoted words of the French physician, Cabanis, and the somewhat gross pun of Feuerbach, both of which are typical of one important tendency of the thought of the eighteenth century.[1]

For the Nineteenth Century two of the chief spokesmen of materialism are the German thinkers, Ludwig Büchner and Ernst Haeckel. Büchner's *Force and Matter* (*Kraft und Stoff,* 1855) passed through numerous German and French editions, and Haeckel's *Riddle of the Universe (Die Welträtsel,* 1899) has been very widely read both at home

[1]According to Cabanis: "Thought is the function of the brain as digestion is a function of the stomach, and the secretion of bile the function of the liver." Feuerbach's famous pun runs as follows: "Der Mensch ist was er isst." Two of the books of this period which express most vigorously the materialistic doctrine are: *L'Homme Machine* (Leyden, 1748) by LaMettrie, and *Système de la Nature* (London, 1770) by Baron d'Holbach.

and abroad. Despite its former popular appeal, however, materialism was pretty generally condemned by leading thinkers twenty-five years ago. Haeckel then was but a voice crying in the wilderness. But in very recent years the view has in principle been revived by a group of thinkers who are by no means negligible. Though, generally speaking, the views of these thinkers are not quite so grossly materialistic as were the older views, the spirit is the same; mind and brain-states are to all intents and purposes reduced to synonymous terms. The older materialism, once supposed dead and decently buried, has come to life again clad in the armor of up-to-date biological terminology. It may even be said to have grown once more into a lusty and militant doctrine and to have assumed a rather formidable offensive.

Face to face with this historical situation, we are compelled at the very beginning of our survey of mind seriously to inquire whether in speaking of mind we may legitimately refer to something which is in any important sense different from the brain and its attachments. Nor, in so doing, will we be engaging in the profitless task of stirring again the ashes of a burnt-out controversy. On the contrary, we shall discover in recent debate a reformulation of old assumptions which amounts to something like a new point of departure.

The older arguments for materialism are generally quite well known. To rehearse them here in detail would be superfluous. Two of the main ones must, however, at least be mentioned.

The first is based upon the intimacy of the relation that obviously exists between mind and body—a relation whose intimacy is being progressively emphasized by developing knowledge. Neither Plato nor Aristotle had any clear notion that what we call mind is in any peculiar and significant manner linked with the central nervous system. They vaguely supposed, in keeping with the views of their day,

that different mental activities are located at various places in the body—some in the head, others in the heart or liver, and still others in the region of the diaphram. Survivals of this ancient tradition are to be found even today in many of our popular phrases; we yet at times speak of the education of the heart in contrast to the education of the head, as though part of a man's mind were in his head and part in his heart. But we all recognize, on second thought, that this is only a metaphorical way of speaking. With progress in modern physiological analysis it has become increasingly clear that mental processes are bound in intimate union with the central nervous system, that mind is to be found enmeshed within that intricate network of neurones which constitute the brain and its paths of contact with the environment. Gall and the old phrenologists associated with him, in spite of their many extravagances, have the honor of being among the first to direct attention to the significance of the convolutions of the brain with reference to the attributes of mind. As the technique of microscopical analysis has grown in precision, more and more accurate information has been acquired concerning the location of different mental functions in various portions of the cortical matter. After the fashion of the old tradition in which he had been brought up, Descartes conceived mind as one definite object which he assumed was located at the pineal gland and functioned there, as it were, in a lump; from this vantage-point it was supposed to exert a direct influence upon the brain, and, through it, upon the muscles of the body, and to be influenced by bodily processes in turn. But the science of physiology, which Descartes himself was largely instrumental in inaugurating, has since revealed the absurdity of this view by disclosing the fact, well known to us at present, that what we call mind is really scattered about the brain, one activity here and another there. Special regions within the brain have long since been discovered for the several senses, such as seeing, hearing, tasting, and smelling. Motor

regions of the brain have also been definitely located, and associative areas have been fairly well mapped. This intimacy between mind and nervous system is further established by the numerous revelations of comparative anatomy in respect of the concomitant variations between mind and the complexity of organization of the nervous system—the greater the complexity the broader the scope of mind, and *vice versa.*

Such facts as these (and the details of the list might be increased almost at will) have at times been supposed to lie in support of materialism. Mind is enmeshed in brain: injure a part of the brain, a portion of mind is deranged; stimulate the brain, mind is affected thereby; develop the complexity of the nervous system, mind gains in scope and power; destroy brain, mind disappears. Mind, therefore, is brain—so ran the older argument for materialism. It is fairly clear nowadays, however, that this argument lacks cogency. Of course, the facts themselves are indubitably attested and must be accepted by all who have confidence in the trustworthiness of scientific discovery. But the only inference warranted by the facts is that the relation between mind and nervous system is a peculiarly close and intimate one; to hold that the facts establish the relation of identity is certainly to outrun the evidence. Such facts have all along been accepted by those who strenuously deny the relation of identity, nor is there any contradiction in this position. One may hold that the different mental processes are distributed throughout the brain, and at the same time, and without the slightest trace of inconsistency, maintain that mental processes are quite distinct from brain activity. And if one admits that mind develops concomitantly and *pari passu* with the genetic development of the nervous system from the amoeba to the mammals and from the simpler to the more complex mammalian forms—if one admits all of this and yet insists that mind and nervous system are qualitatively distinct, one does not thereby contradict oneself;

whatever may be the deficiencies of parallelism, for instance, it certainly does not stand condemned by the results of comparative anatomy. "Mind is closely, even indissolubly, connected with the neuro-muscular system" and "mind is identical with the neuro-muscular system" are two quite distinct assertions; the relation of "close connection" and the relation of "identity" are different types of relation. And the facts disclosed by psycho-physiological analysis prove the first relation, not the second. Materialism is, therefore, not established by such facts.

The advent and acceptance of the theory of evolution in modern science seemed to many to lead with inevitable logic in the direction of materialism. From this angle of approach the important aspects of the theory are mainly two. The first is its implication that the complexity of the present order of the world, particularly of our planet and its inhabitants, has grown out of a relative simplicity which by analysis may be reduced to insentient matter in some quite attenuated form. The second is the principle that this development of complex later forms out of earlier simpler forms is a gradual and continuous growth without any sharp or sudden breaks between stage and stage—the principle expressed in the phrase "nature makes no leaps." With these aspects of the evolutionary process as premises, it appears to be a straightforward argument to the conclusion that mind is ultimately reducible to brain and brain ultimately reducible to molecules and atoms, in the sense that mind is nothing but the nervous system and the nervous system nothing but molecules and atoms. For if there is a continuous evolution from molecules and atoms to brain and mind, and if the later forms in the evolutionary process can logically be analyzed without remainder into the earlier, then mind apparently finds its complete explanation in the multitudinous cells that compose the cortical substance, and, through them, in the ultimates of physics and chemistry. In short, mind *is* the cells of the brain, and the cells of the

brain *are* the material constituents into which they are ultimately analysable. And with this we seem to have arrived at materialism once more.[2]

Of course, the acceptance of the evolutionary view of the world necessitates the conclusion that mind is a relatively late comer in the ongoings of things, and that it emerges out of relatively simple beginnings. However and whenever life appeared on the earth, it is at any rate certain that the developmental view of life logically involves the conviction that mind as we know it has grown through a long and arduous history and has come to fruition through those stages of evolution that constitute the biological series. On this there need be no difference of opinion. But what is the implication of all of this? Certainly not that mind is ultimately describable in purely physical terms. On the assumption that any given complex object which appears in the evolutionary series is identifiable with the constituents out of which it has temporally evolved and into which it may be reduced through analysis, a strong case may, on the evolutionary view, be made for the thesis that mind is only brain and brain only molecules and atoms. But does an unprejudiced observation of the accepted facts warrant such an assumption? Do not the facts seem to show, on the contrary, that in the evolutionary process something new

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[2]See Professor Loeb's statement: "Our wishes and hopes, disappointments and sufferings have their source in instincts which are comparable to the light instinct of the heliotropic animals. The need of and struggle for food, the sexual instinct with its poetry and chain of consequences, the maternal instincts with the felicity and suffering caused by them, the instinct of workmanship, and some other instincts are the roots from which our inner life develops. For some of these instincts the chemical basis is at least sufficiently indicated to arouse the hope that their analysis, from the mechanistic point of view, is only a question of time." *(Mechanistic Conception of Life,* p. 30.) This "hope" leads Professor Loeb to the guess that all animals, including *homo sapiens*, are "only chemical mechanisms." *(Ibid.,* p. 31).

is constantly emerging? If the process of nature makes no leaps, it at least does not exclude the possibility of novelty; the novel is everywhere appearing. Water is genetically connected with hydrogen and oxygen, but it is neither the one nor the other; it has qualities, such as a maximum density four degrees above the freezing point, which are quite distinct from any of the qualities known to be characteristic of either of its constituent elements. Analogously, it may very well happen that mind supervenes upon a peculiar type of bodily organization and yet have characteristics that do not properly belong to bodily organization considered merely as a physiological phenomenon. As yet I do not argue that such is the case; I only insist that such may very well be, and probably is, the case—the fact that mind develops out of protoplasm does not of itself and necessarily imply that mind is blankly to be identified with protoplasm.

The point here is of such fundamental importance, not only with reference to our present problem but also with reference to the whole question of the implications of the theory of evolution in its broader sweep, we may to advantage linger on it for a moment. Broadly put, there are two interpretations of evolutionary development. What these are has already been suggested, but elaboration will perhaps aid clarity. In one interpretation, the later and more complex forms are held to be, in their own proper natures, identical with the simpler constituents through the combination of which they have arisen. This is the interpretation formerly commonly held, and it is the interpretation which seems to give foundation to the conclusion that mind is adequately describable in terms of bodily organization because in the evolutionary process it has supervened upon bodily organization. The other and contrasting interpretation holds that the later and more complex forms in the evolutionary series, while developing through continuous

gradations out of the temporally prior forms, are nevertheless featured by new qualities and functions that make them markedly different from the simpler constituents that compose them. In this interpretation, the fact that mind is genetically connected with bodily organization, and, ultimately, with whatever may turn out to be the "matter" with which physics deals, does not in the least warrant the conclusion that mind is to be baldly identified with bodily organization, or, farther back, with insentient matter. When life appeared in the evolutionary series, whenever and however that very important event may have happened, something new entered into the series, and when mind at length entered upon the scene, if it did not appear with life as an integral aspect of it, something novel once again enriched the world-order. If you want convenient adjectives to distinguish these two conceptions of the evolutionary process, "repetitive" may be taken as descriptive of the first and "emergent" as descriptive of the second. The view of evolution as "repetitive," then, interprets the evolutionary process as a continuous repetition of the original elements (however conceived) in manifold combinations through which no novelty is gained; while the view of evolution as "emergent" holds the process to be a series of ever-varying, and more or less sudden and abrupt, combinations of the primitive elements that constantly add to reality novel properties.

Which of these two interpretations of the evolutionary process is to be accepted? The older evolutionists accepted the first without question, but more recent advances in our scientific (particularly biological) knowledge seem to point in the direction of the second view. The facts here are too numerous to mention in this cursory survey. But a systematic analysis of them would apparently justify the statements recently made by two eminent biologists. According to Professor Parker: "In all evolutionary growth . . . each step is marked by an abrupt and sudden change. Nature

is not, as the older evolutionists would have us believe, a smooth ascent in complexity or the reverse, but each move is associated with abrupt alterations in which properties entirely novel and unpredictable appear." And Professor Conklin asserts: "Actual observation shows that by interaction with one another of substances or parts originally present and by their reaction to external stimuli new substances and parts appear which had no previous existence, just as new substances result from chemical reactions."[3] In these statements we find a view which scientists generally, I take it, are coming more and more explicitly to recognize.[4] And if this view of the evolutionary process be accepted as the correct interpretation of it, then the argument for materialism based upon the evolutionary hypothesis falls of its own weight.

The distinction above drawn between the two views of evolution directs attention to a confusion which is a besetting sin of human thinking and which consequently should be clearly noted—the confusion, namely, between origin and significance or meaning. It is easy for us to suppose that a study of origins is *ipso facto* a study of natures, that when we have traced in detail the genesis of a thing we have

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[3]The above quotation from Professor Parker will be found in his article, "Some Implications of the Evolutionary Hypothesis," *Philosophical Review*, November, 1924 (Vol. XXXIII), p. 598. For the quotation from Professor Conklin see his *Heredity and Environment in the Development of Men* (Princeton, 1923, 5th ed. rev., p. 205; compare p. 59). The point of view of "emergent evolution" has been dealt with at length by Professor Lloyd Morgan in his book by that title *(Emergent Evolution,* New York, 1923).

[4]Note: Professor Herrick's concept of "organic modes" (C. J. Herrick, *Neurological Foundations of Animal Behavior,* New York, 1924, particularly pp. 248, 296, 304); Professor Child's concept of "organismic pattern" (C. M. Child, *Psysiological Foundations of Behavior*, New York, 1924); and the concept of "psychical integration" which is playing such a large role in certain currents of contemporary psychological thought (See E. B. Holt, *The Freudian Wish; and* A. G. Tansley, *The New Psychology and Its Relation to Life).*

thereby laid bare that thing's innermost essence. Now, of course, it is unquestionably true that genetic description is an important method of getting at the comprehension of phenomena; there is no denying that when we have delved into the conditions out of which a phenomenon emerges we have thereby penetrated into some very important features of the phenomenon in question. But such a genetic study does not of itself reveal the full nature of the phenomenon, and it is a mere confusion to suppose that it does. Particularly is this true in the case of organic phenomena where time (the process of growth) is an ineradicable and creative aspect of the phenomenon in question.[5] Against such a confusion in our discussion of mind (into the nature of which time ever gnaws) the distinction between "repetitive" and "emergent" evolution may do much to defend us if we but keep it clearly before us.

One of the strongest appeals for the materialistic conception of mind, and one which at present is very frequently stressed, is based upon the supposed implications of the method of science and the demand it makes for intelligibility of phenomena. If there is one thing which is anathema to science it is the unintelligible. Mention anything which has about it the air of mystery, and the scientist is at once alert, scenting danger and with his teeth set for a fray; and the deeper the mystery the more intense is his antagonism. Just at present there is abroad and growing a rather widespread conviction that mind as conceived by the mentalist is wholly mysterious and unintelligible. As so conceived, the opponent of mentalism urges, mind is a

[5]See Professor James's remarks on this point in the opening lecture of the series of Gifford Lectures on *The Varieties of Religious Experience* (1902; 10th imp., 1904). He is there speaking primarily of religious phenomena, types of religious experience. But what he says is in principle applicable generally. Of all things (at any rate, of all vital things) it holds broadly true: "By their fruits ye shall know them, not by their roots."

mysterious and unintelligible somewhat observable, if at all, only by the subjective method of introspection and not by the objective method of genuine scientific analysis; before it can become an object of real scientific interest it must be brought out of the realm of mystery and given a local habitation into the innermost recesses of which the method of objective observation may enter, and this is done when, and only when, mind is frankly identified with something which, like bodily processes and responses, is subject to objective analysis. Thus from the side of the method of science materialism is held once again to receive substantial support. This line of argument is by some explicity formulated and defended, by others it is tacitly assumed, but by many it is supposed to have very great weight in the discussion concerning the nature of mind.

So far as the demand of science for intelligibility is concerned, there can hardly be two opinions. This demand is wholly commendable. No one who has the slightest appreciation of the vicissitudes attendant upon mankind's intellectual adventure hitherto can fail to be in whole-hearted sympathy with the scientist's insistence that whatever lays claim to our intellectual allegiance must first submit its claim to the most rigid scrutiny of a reasoned survey. It is precisely this insistence, carried into practice through the few centuries of our continuous intellectual life, that has redeemed us from all sorts of superstitions and given us what little solid information we possess concerning both ourselves and our world. But, however great may be our enthusiasm for the demand that phenomena be made intelligible, and however unreservedly we may subscribe to this demand, it is clear that we are not thereby committed to the conclusion that mind and brain are basically the same unless it can be shown that the conception of mind as identical with brain is the only intelligible conception of it. Can this be shown?

Well, what precisely is meant by intelligibility? Broadly defined, the intelligibility of anything means the quality

which that thing possesses of being describable in terms understandable to us and demonstrably true of the thing in question. If the thing has a nature such that we can attach to it qualities which have for us a meaning and which can be made objectively valid—that is, rationally convincing to others—then we may legitimately say the thing is intelligible; if the thing has not such a nature or may not by us be known to have such a nature, it at best remains for us a mystery—at worst it is on a level with centaurs and other fictions of the imagination. So far as I can see, intelligibility means this, and it means nothing more; it means susceptibility to understandable and verifiable description.

A point of special importance to our present purpose should here be emphasized. If the description of a thing is to have genuine scientific value, it must be precisely faithful to the nature of the thing described; it is vitiated just so soon as the nature of the thing is distorted to fit its outlines. To take a specific instance: electricity is intelligible to the extent that we can describe its nature and its behavior in terms which are appropriate thereto and which through observation we can discover and others through observation can verify. But, be it noted, the terms of our description are not of our own making; they are forced on us by what we observe. If we should be so foolish as to imagine that electricity is a purposive agent and then proceed to act as if it were such, neither our description nor our conduct would be scientific; our terms of description would not be appropriate to the thing described, and our conduct would by it forthwith be repulsed. Things are as they are; they are made intelligible when the terms we apply to them reveal them as they are, and not otherwise. Lack of agreement between ideas and objects is error, not truth; trimming facts to fit our preconceptions is mythology, not science.

This much being granted, we return to our immediate problem. Is mind intelligible only when it is identified with

the brain and its attachments? The answer to this question, we now see, logically lies in the answer to this other one: Is the observable nature of mind such that it may appropriately and without stint be described in terms of the structure and functions of neurones?

It is, of course, useless to enter here upon anything like a detailed enumeration of the sundry aspects which are presented by what we call "mind." We all know them in a general way; at least we are acquainted with the words which we commonly use to designate them; they are just what we are constantly talking of in terms of sensations, emotions, feelings, images, thoughts, and consciousness. To give an exhaustive and systematic analysis of them is precisely the problem of psychology. But we are not here concerned with detailed psychological analysis. We wish, rather, merely to inquire whether mind in its entirety may be made intelligible in terms of biological phrases of description, as has been argued it may. And to this end it is sufficient to direct attention to some of the types of experience undeniably characteristic of what we call mind, which puts difficulties in the way of this undertaking—difficulties which, if I am not mistaken, are insuperable. Time will permit us to survey only two types, but these seem to me of crucial importance; they are what we designate by the words "cognition" and "consciousness."

Cognition is characterized by a feature that is of peculiar importance for our present inquiry. This is what has been called in technical language its "transcendent reference." By this is meant that a given cognitive experience leads beyond itself and refers to something else, that cognition involves meaning. Illustrations are as numerous as are cognitive experiences. When one sees a red light in the road and makes a detour in consequence, one's perception of the light points to something other than the light itself, namely, a dangerous place in the road; the light is a meaning, and not merely a visual experience. If one undertakes to obtain

the cube root of the quotient resulting from the division of the sum of 59 and 22 by the number 3, one's solution of the problem proceeds through a series of meanings—the several numbers have a meaning, the processes of addition, division, and extracting the cube root have each a meaning, and, if the problem is correctly solved, one puts these meanings together in such a manner as to arrive at the correct result. In this series each cognitive act has its transcendent reference. Cognition also, at times at least, transcends time and reaches back into the past or forward into the future or out into the purely imaginary. Thus, when I anticipate tomorrow's tasks, or recall the push of the German armies towards Paris in the late war, or amuse myself with the idle contemplation of mermaids and centaurs, my experience is concerned with something which is not physically coexistent with the experience itself; I range hither and thither in time and even out into the physically non-existent. And we have all along been told that there may shine upon the poet "a light that never was on sea or land." In cognition, thus, there is always present a transcendent reference; the cognitive experience reaches beyond itself and points to something else. This feature of "pointing" is one of the unique features of cognition.

Now it would seem that this feature of the cognitive experience cannot be completely described in purely bodily terms. This has been tried from time to time since the days of Democritus, but with doubtful success. Formerly the effort was made to identify thinking with brain activity: "Thought is the function of the brain as digestion is the function of the stomach and the secretion of bile the function of the liver," as Cabanis would have it. But this cannot be in the sense in which it evidently is meant, for the reason that brain activity (its "functioning") considered as a purely physical event and taken by itself alone, can for itself have no meaning—no transcendent reference. The stomach might as readily "understand" the chemistry

of its digestive function, or the liver know the why and wherefore of its formation of bile. The "meaning" aspect of the cognitive experience simply falls outside of the nature of the functioning of the brain *considered as an exclusively neurological process.*

More recently thought has been identified with general bodily behavior, particularly with very complex "implicit bodily processes," among which those concerned in speech are of primary importance.[6] But this change of emphasis in terminology does not affect the principle involved; the new formulation of description does not succeed in making it more nearly adequate to the fact described. For the newer description, as the older one, not only leaves out of account the meaning side of the cognitive experience, but it flatly contradicts it. If thinking were nothing more than bodily processes, movements of the organs of speech, then the mutterings of a man emerging from a dream state would apparently be as meaningful as the most coherent speech of the genius in his moments of greatest lucidity, and for the reason that there would be no meaning in either case. The one who talks most is, unfortunately, not always the one who thinks most; and this probably holds whether you identify "talking" with overt or implicit bodily movements. When thinking is made equivalent to the movement of bodily mechanisms, meaning as a logical concept seems to equal zero. And with this we find ourselves in a rather disconcerting situation. For the question is raised: How, on such an assumption, is it intelligible that the cognitive experience can reveal that it itself is only a set of bodily processes? How can bodily movements *know* that they are

[6]See J. B. Watson, *Psychology from the Standpoint of the Behaviorist,* for a defense of this view. In his article entitled "Behaviorism and Consciousness" *(Psychological Review,* Vol. XXX, 1923, pp. 237-272, 329-353) K. S. Lashley argues at length in behalf of the same position. Lashley's article gives other references to current literature.

nothing but bodily movements? The fact that thinking is identical with implicit bodily movements is, apparently, inconsistent with that fact's being known.[7] This way of description of mind, therefore, is hardly satisfactory.

Another important aspect of the cognitive experience is what we ordinarily call "belief" or its converse "doubt." As Professor Dewey has, I take it, clearly shown,[8] thinking is intimately bound up with hesitancy and doubt; the situation which gives rise to the cognitive experience is a problematic situation. And when doubt is removed and the problem solved, belief supervenes. Now it may very well be the case, as Professor James maintains it is, that belief and its opposite are emotional states. But, in any event, they are ineradicable features of cognition. Nor are they describable in purely physiological terms. That brain activity or "implicit bodily processes" can be equated with the attitudes of doubting and believing is hardly credible. These attitudes are experienced as something quite distinct and with qualities that persist in spilling over all bodily terms of description. Neurones neither doubt nor believe; doubting and believing are simply types of activity that lie beyond the nature and functions of that stuff of which the brain and its attachments are composed, *when that stuff is considered in its exclusively physical features.*[9]

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[7]The dilemma involved here has been developed at length by Professor Lovejoy. See his articles: "The Paradox of the Thinking Behaviorist," *Philosophical Review*, Vol. XXXI, pp. 135-147; and "The Anomaly of Knowledge," in *Issues and Tendencies in Contemporary Philosophy* (University of California Publications in Philosophy, Vol. IV), pp. 3-43. The answer to Professor Lovejoy's argument given by Professor Warren ("Awareness and Behaviorism," *Philosophical Review*, Vol. XXXI, pp. 601-605) seems hardly convincing; it in fact appears largely to miss the point.

[8]See his book, *How We Think*.

[9]In the chapter on belief in his *Analysis of Mind*, Bertrand Russell has argued at length for the mentalistic view of this cognitive attitude. The inconsistency in his treatment of belief and thinking and the implications of it with reference to the general nature of mind I have attempted to set forth in Appendix I of this volume.

Consciousness, likewise, seems to me to present an insuperable obstacle to the identification of mind with bodily organization. Of course, if one denies outright the existence of consciousness, as some contemporary thinkers are inclined to do, then naturally it puts no difficulty in the way of such an interpretation of mind. But that its existence can justly be denied is by no means clear. The existence of consciousness seems to be about as obvious as the existence of anything well can be. For it is consciousness which, in the words of Professor Warren, furnishes "the tang of life" to each of us. "However much my actions may be determined mechanistically or unconsciously or subconsciously, it is my *conscious* experiences . . . that mean life to me. The proved value of consciousness is the subjective life which it furnishes to the individual."[10] But if the existence of consciousness is admitted, then mind once more must be held in some sense to fall beyond the mechanisms of the body. For in consciousness we find another aspect of the mind which, like cognition, cannot be adequately measured by reference to nervous processes and muscular contractions. Consciousness is quite distinct from a movement within, or a state of, the nervous system. Certainly this seems true in my own individual case; for the awareness which indubitably characterizes my own experiences has a quality that cannot be identified with the activity of neurones or the movements of the mechanisms of the body. And I am justified in saying that the same thing is true in the case of others, if I am at liberty to place any confidence at all in language; for language, I seem safe in assuming, is precisely the expression of the sort of consciousness I am acquainted with in myself.

The preceding considerations indicate in broad outline some of the more important characteristics of mind which defy description in purely bodily terms. Others might be

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[10]Warren, "The Mechanics of Intelligence," *Philosophical Review*, Vol. XXVI, p. 620.

added if time permitted. But the implication seems clear. So far from its being true that mind is intelligible only when in principle identified with the nervous system, these characteristics of mind spill over bodily terms of description. The method of science and the demand it makes for intelligibility do not force us to take the materialist's view of mind: "Mind is intelligible" means that mind is describable in terms adequate to its nature, and such terms do not refer to the brain and its attachments taken exclusively in their biological reference. In its total nature, mind is such that it cannot be compressed into the molds of bodily forms; cannot, that is, be adequately described as mere movements of bodily mechanisms; some aspects of it always fall beyond such movements.

The upshot of our discussion thus far is largely negative—mind cannot, at least no compelling reason is evident why it should be, blankly identified with body. But this negative conclusion has positive implications of great importance. If mind is not to be identified with body, then it must have characteristics of its own which demand further description. The attempt to describe some of these will concern us in our later discussions; and this attempt will constitute the positive side of our survey. Before passing on, however, permit me to say a word in conclusion concerning what would appear to be the most fruitful conception of the relation between mind and body.

There can, of course, be no question that mind and body are very closely intertwined. All of the facts to which the materialist appeals indicate this; herein lies the indisputable truth of the materialist's arguments. To think of mind as sharply sundered from body is to think of it abstractly; it is, in fact, the converse fallacy of the blank identification of the two. But what are we to understand by this "intertwining"?

Many theories of the relation between mind and body

have been advanced during the course of the debate of the question, with the names of which we are doubtless familiar. Of the classical theories, perhaps interactionism and parallelism are basal; most of the others are variations of these two. The arguments and criticisms relevant to these older theories are numerous and complex; but into these there is here no time, as fortunately there is no need, to enter. They have often been discussed elsewhere.[11] The view most recently advanced, and the one which I am concerned to emphasize as pointing in the most fruitful direction, is based upon the "emergent" view of the evolutionary process briefly defined above. According to this view of evolution, we recall, new and unpredictable qualities constantly appear in the series as it proceeds from stage to stage. These new qualities are said to "emerge" in the series, they are "emergent" qualities; they supervene upon the combination of constituents from whose individual qualities they are quite distinct. "Emergence" thus means the appearance of properties that are essentially novel. Keeping before us this notion of emergence, we may readily grasp the import of the emergent view of the mind-body relation. According to it, mind is related to body as an "emergent" quality or set of qualities; it is a new phenomenon, or a new set of phenomena, which enters into the development of life when a certain degree of organization is attained.

There are many factual considerations that seem to substantiate this view of the relation between mind and body. Indeed, it seems hardly an exaggeration to say that the most recent advances in biological and psychological inquiry lie directly and unequivocally in support of it.[12] But the

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[11]Comprehensive surveys may be found in: McDougall, *Body and Mind;* Strong, *Why the Mind Has a Body;* and Pratt, *Matter and Spirit.*

[12]See Lloyd Morgan's book, *Emergent Evolution,* referred to in a previous footnote; and S. Alexander's *Space, Time, and Deity.*

point I am just now most interested in lies in the fact that this interpretation of the mind-body puzzle enables us to do justice to the claims of both the mentalist and the materialist. On the one side, it makes intelligible that intimacy between mind and body which the materialist rightly stresses; and, on the other side, it makes room for those qualities of mind which the mentalist justly insists fall beyond the nervous system when that is conceived in purely biological terms. It thus saves us from the correlative errors of flying in the face of facts by denying the existence of mind, and of an abstract view of mind as something sharply sundered from the mechanisms of the body. In short, it promises to make intelligible the characteristics of mind when set plumply in the midst of its genetic context. There is little surprise, therefore, that the current of biological and psychological thought is leading strongly in the direction of this interpretation of the mind-body relation.

In the *Tale of a Tub* Swift humorously describes an imaginary religious sect whose tenets succeeded in spreading very far, especially among those of "good fashion." This sect "worshiped a sort of idol, who, as their doctrine delivered, did daily create men by a kind of manufactory operation. This idol they placed in the highest part of the house, on an altar erected about three feet. . . . The worshipers of this deity had also a system of their belief which seemed to turn upon the following fundamentals. They held the universe to be a large suit of clothes, which invests everything. . . . Look at this globe of earth, you will find it to be a very complete and fashionable dress. What is that which some call land but a fine coat faced with green? or the sea but a waistcoat of water-tabby? Proceed to the particular works of creation, you will find how curious journeyman Nature has been to trim up the vegetable beaux; observe how sparkish a periwig adorns the head of a beech, and what a fine doublet of white satin is worn by the birch. To conclude from all, what is man himself but a microcoat, or rather a complete suit of clothes with all its trimmings? As to his body, there can be no dispute; but examine even the acquirements of his mind. You will find these all contribute in their order to furnishing out an exact dress. To instance no more, is not Religion a cloak, Self-love a surtout, Vanity a shirt, and Honesty a pair of shoes, worn out in the dirt?"

The bitter humor of the satirist here touches a persistent human weakness, which manifests itself in one of two correlative tendencies. On the one side, we are prone to bow down before the idol of make-believe. We are eternally beset by the temptation to magnify externals, and we persistently fall before it. It is not easy for us to see in nature anything but the outward show; while in human relation-

ships generally—in "society," in politics, in education, in religion—the trappings alone often rivet our attention. It is all too easy for us to mistake appearances for realities and to neglect entirely the deeper world that lies beneath—

> That true world, within the world we see,
> Whereof our world is but the bounding shore.

Either this, or the deeper world gains our interest, and we metamorphose it into some mysterious cosmos sharply sundered from the ordinary and commonplace happenings of everyday life. Cut off from the externals, this "world within the world we see" tends to clothe itself in mystery; and in our endeavor to compass it we are prone to indulge in flights of imaginative metaphor. These two tendencies, I have said, are correlative: the one sees only the clothes and neglects the body clothed upon, while the other refuses to avail itself of the chart and compass which the clothes alone can give. Each is untrustworthy, and, if given full sway, leads inevitably into error.

These two tendencies of human thought are especially manifest in connection with the problem of mind. There are those, on the one hand, who see in mind nothing more than the sundry experiences that make up the mental life; for them mind is only the sum-total of an individual's experiences. Others are wont to make of mind something hidden and existing in its own right in splendid isolation from the concrete and observable ranges of experience. In the one view, mind is merely an aggregation of specific acts of doing and thinking; in the other view, mind is a sort of agent that wills and thinks. This latter view is the one which we shall be concerned to combat in the present discussion; the error involved in the former view and the correction of it will occupy our attention in the lecture following.

The notion that mind is a sort of agent sitting somewhere in the body, like a spider in its web, and sundered from its

experiences (thinking, feeling, willing) very much as the spider is separate both from the web it weaves and from its activity of weaving—this notion of mind seems practically inevitable to most of us. Things "run through" our minds, we say, and the expression seems natural enough—until we undertake to penetrate the metaphor! What can mind be, if not *that which has experiences?* Does it not wear its experiences like suits of clothes, now gay and now sorrowful? And is it not something quite distinct from the clothes it wears?

This view of mind also underlies much of our practice, which, after all, is the surest touchstone of our genuine beliefs. In practice we frequently seek the living among the dead—we act as if mind were some mysterious and static agent largely indifferent to detailed ways of thinking and doing. Our actions on the Sabbath, for instance, and our actions during the remaining six days of the week have, in the estimation of many of us, little if any connection; and we are benighted enough to console ourselves with the assumption that "we" (our egos) are in some important sense different from all of them, or, at least, that our Sabbath doings are more truly indicative of our real *selves.* In the field of educational endeavor the direful consequences of the same abstraction are not unknown. We half-heartedly plough through set tasks with a minimum of application, piously expecting that such performance will "at last, far off" bring an educated mind, while our main interests and endeavors lie far afield; and the academic degree still has about it something of the halo of educational sacrosanctitude, with however poor an effort it may have been acquired. In the broader field of life the same assumption gives tragic truth to Emerson's observation that "life wastes itself whilst we are preparing to live"; for it is largely responsible for the fatal separation all of us Micawbers make between what we are daily doing and what some fine day we hope to be. Our concrete experiences are suits of clothes

which change with the fashions of the years and which are largely indifferent so far as our true "nature" is concerned: our "minds" are our very selves, our egos, our souls, which are always with us and always the same, an eternal and immutable gift of grace—such is the assumption upon which all of us some of the time, and most of us all of the time, act. Mind and its experiences are sharply sundered.

This view of mind is a hoary and ancient tradition—and this is one reason why it happens by us to be taken as natural. It was first clearly formulated, perhaps by Plato. According to Plato, the soul or mind (he uses the two terms synonymously) is a definite entity attached very loosely to the body it inhabits and only temporarily conjoined with it, its union with the body being simply an incident in the soul's eternity.[1] It is also different from, and largely indifferent to, its specific experiences; its basal nature is not to be sought in specific acts of desiring, thinking, and acting.[2] This Platonic view of mind soon became embedded in European thought and was in principle the dominant view of the Middle Ages. Of course, the thinkers of the Middle Ages made certain modifications of the Platonic tradition to fit it into the theological scheme which it was their primary purpose to justify. But in its broad outlines it remained untouched, and its obvious adaptability to the demands of the Christian religion as defined by the early Fathers of the Church increased its hold upon the thought of the period.

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[1]Our birth is but a sleep and a forgetting:
The Soul that rises with us, our life's Star,
Hath had elsewhere its setting,
And cometh from afar.

Wordsworth (Ode on the Intimations of Immortality).

See Plato's account of the choice of lots by the disembodied souls as given in the myth of Er at the conclusion of the *Republic.*

[2]Plato does speak of these experiences as "elements" of the soul; but the soul is nevertheless thought of by him as somehow, in its own deeper nature, separable from them.

The tradition entered into modern thought, particularly through the influence of Descartes, under the name of the spiritual-substance view of mind—the view of mind, that is, as a substance (entity or agent), immaterial in nature and capable of thinking and experiencing. Thence it has been handed down to our own time; and, until quite recently at any rate, it was generally accepted as the common-sense view. Hence its apparent obviousness.

For a time this traditional view of mind was held, even in modern critical circles, to be a respectable theory. But it was soon subjected to a skeptical scrutiny, which grew more and more pronounced as the centuries advanced. Modern thought had hardly got well under way when the tradition fell upon evil days, and by the beginning of the nineteenth century it was quite generally given up by the leading thinkers. Locke's "plain historical method" led even him to cast suspicious glances at it; Spinoza practically analyzed it away; Leibnitz undermined its foundations; Berkeley tried to fortify its claims, but Hume immediately subjected it to a merciless criticism and by a direct frontal attack practically annihilated it; while Kant, joining forces with Hume, though preferring to follow his own line of advance, urged its rejection on account of its inherent inconsistencies and proffered instead another theory that seemed to him more in keeping with sober fact. But I shall not tax your patience by entering further into these historical details. Let it here suffice to say that the development of modern thought, philosophical and psychological, has clearly shown that the spiritual-substance view of mind cannot stand in its traditional formulation. It will not work as a reasoned view; it is unintelligible. There is, as it seems to me, an element of truth in the theory which gave it its vitality through so many centuries of reflection and made its overthrow a rather difficult undertaking; and this we should do ill to overlook. What this element of truth is I

hope to emphasize in the following lecture. In the meanwhile it must be said that the surrender of the view is not only justified, it is necessary; the error involved in it outweighs its truth.

The basal difficulty attaching to this traditional view of mind can, I think, be summarized in the one word, *abstract.* As we have seen, it insists upon conceiving mind as an entity existing apart sharply cut off from its own specific ways of behaving; it is supposed to be different from its experiences, much as the doer is different from his deeds or as the knife is different from its cutting. But to conceive mind thus is to conceive it abstractly and to make it an unscientific, because unintelligible, metaphor. Any view of mind which builds a wall between it and its concrete ways of doing and thinking renders it hopelessly abstract; such a view must be surrendered. And this is precisely what the spiritual-substance view does. As the kife cuts but the cutting is not the knife, so, according to this view, the mind experiences, but the experiencing is not the mind. What, then, can mind be?

Mind in its innermost nature must, without reserve, be linked with specific and observable experiences, or it remains for us a meaningless word. This thesis can, I think, be amply justified by the simple device of seriously questioning what mind can be when it is sundered from thoughts, memories, feelings, desires, and ways of responding to specific situations. To such a question there is only one answer: mind so conceived is nothing—nothing, that is, intelligible. Taken apart from its several activities of desiring, perceiving, feeling, thinking, and the like, mind is an empty abstraction, a veritable tumble-ground for unbridled fancy, a metaphor to which no definite content can be given.

This seems *prima facie* so obvious and has so often been urged that I hesitate to labor the point. And yet when I remember the strength and insidiousness of the tendency to assume the contrary, even in

serious discussions of the problem, I am impelled to dwell for a moment on the matter. Let us for the moment suppose that mind is something—call it X—which is somehow quite radically distinct from responding to stimuli, following interests, pursuing desires, recollecting, thinking, enjoying, suffering, and whatever other similar specific acts of experiencing there may be. What is this X? For my part, I could as readily call it an Abracadabra as to call it mind, and the first expression would convey to me precisely as much meaning as the second—namely, none at all. Mind so conceived, I repeat, is unintelligible. Nor is there any difficulty in understanding why it is unintelligible. When it is thus supposed to be sundered from all that is observable and to exist by itself apart, there is no ladder which reason can build to reach it; it is, in the literal sense of the word, *inconceivable*. On this point, at least, I am compelled to think, all must finally agree with Hume's oft-quoted statement: "Were all my perceptions removed by death, and cou'd I neither think, nor feel, nor love, nor hate after the dissolution of my body, I shou'd be entirely annihilated, nor do I conceive what further is requisite to make me a perfect non-entity. . . . The mind is a kind of theatre where several perceptions successively make their appearance; pass, re-pass, glide away, and mingle in an infinite variety of postures and situations. . . . The comparison of the theatre must not mislead us. They are the successive perceptions only that constitute the mind; nor have we the most distant notion of the place, where these scenes are represented, or of the materials, of which it is composed."[3]

The case against the traditional view of mind may, I think, fairly be summarized in the two theses: (1) there is no justification for holding the view, and (2) it is practically useless so far as the explanation of the mental life

[3] *A Treatise of Human Nature*, edition by L. A. Selby-Bigge, pp. 252, 253. Hume uses the term "perception" as practically synonymous with our use of "experience."

is concerned. There is no reason for holding it, because it has no foundation in observable facts; it is useless, because it does not at all aid us in understanding the concrete ranges of experience. To the question, Why should mind be so conceived? there is no answer that arises logically out of the facts of the mental life; and there is equally no answer to the further question, How could such a mind think or will or feel? The theory, in short, is not scientific. Of course, I do not imagine that I am here saying anything new with reference to the tradition; I am only summarily stating what has frequently been advanced against it since the days of Hume. But this, I repeat, is only an added reason why the tradition must be given up.

If, then, we are to say that mind means anything at all, we must seek for it in the midst of our daily doings and sufferings. There we find it—or nowhere. It is not something high and lifted up beyond the prosaic paths of our daily round; it winds through these paths and has its habitat there. If, insetad of saying that thoughts, desires, and the like "run through the mind," we should say that mind itself "runs through" specific experiences, we should be much nearer the truth. It would, of course, be somewhat awkward to speak of mind as "coming to an idea" rather than to say, as we ordinarily do, that an idea "comes to the mind"; but the first form of statement is, I am compelled to believe, much nearer the heart of the matter. As an intelligible fact, mind permeates concrete deeds and beliefs.

The net result of our considerations thus far is the simple conclusion that mind as we know it in ourselves is intimately bound up with brain organization and that it exists exclusively in the daily actions and passions of life. I call this conclusion simple because it is easily stated and seems to involve no difficulty of comprehension. Whence once it is explicitly formulated, it demands acceptance. But it has

implications of far-reaching significance which we ordinarily overlook and which are partly at least contradictory of many of our deep-seated practical and theoretical prejudices.

Among these implications there is one of peculiar importance with reference to our present purpose. That is the conclusion that mind in its innermost nature is marked by transformation and change. When once we commit ourselves without reserve to the position that mind winds through the ranges of daily experiences, through doings and sufferings and longings, through interests and their pursuit, through thinking and its fulfillment, we are thereby committed to the further conclusion that mind lives in change and finds its being there. For these ways of doing and suffering and attaining are evanescent; they come and go, arise and perish, change with kaleidoscopic rapidity. They are caught within the stream of time; they "pass, repass, glide away, and mingle in an infinite variety of postures and positions." In Bergson's expressive phrase, they are "bitten by the tooth of time." Consequently, if we are unreservedly to admit that mind is bound up with them, then we inevitably must admit further that mind itself is bitten by time's tooth. It is in process; its being lies in its becoming. It is, in short, activity.

This dynamic conception of mind follows, I say, from the identification of mind with its observable setting. That is the reason why it is directly in harmony with the results of recent psychological analysis; for psychology, of whatever type, deals only with the observable and the verifiable—at least, such is its aim. It is not surprising, therefore, that recent studies of instinct, learning, conation, and the emotions, as well as the principles disclosed through the work of the psychoanalysts and the psychiatrists, lead away from the static, and towards the dynamic, view of mind. The farther psychology proceeds in its analysis of different aspects of mind, the more clearly does it appear that mind

in its complete nature can be adequately described only in dynamic terms. The change of emphasis which mainly distinguishes the more recent from the older psychology is a clear illustration of this. For the aim of psychology at present is not, as formerly, to get at the *content* of mind; it is rather to understand mind's workings. The main problem of psychology nowadays is, broadly speaking, the problem of motivation, rather than the problem of explaining how mind comes to be "furnished" with the experiences it possesses; the problem is to tell why mind acts as it does, not to exhibit what it contains. In fact, the notion of mind as a "container" is foreign to contemporary psychology; the basal conception is that of process. This change of emphasis is clearly evidenced by a comparison of the writings of recent psychologists with those of the older psychologists, say, for instance, the associationist group. The recent lectures of Professor Woodworth, for example, published under the title of *Dynamic Psychology,* and the *Analysis of the Phenomena of the Human Mind* by James Mill afford in striking fashion the contrast that I am speaking of. This change of emphasis is, of course, indicative of a change in underlying conception of mind—from that of mind as a more or less static thing (substance) sundered from its experiences to that of mind as a dynamic drive pushing to its fulfillment through sundry tendencies both inherited and acquired. The conception of mind as activity is thus forced upon us both by the logical necessity of linking mind without reserve to its concrete setting as a point of departure in our conception of it and by the actual achievements of psychological inquiry and analysis. And these two reasons are in last analysis identical.

But is there anything new in all of this? Do we not ordinarily suppose that the mind which does not change, and change rather radically, with the passing of the years. especially during the earlier periods of life, is at best mediocre and at worst abnormal? When Shakespeare, for

example, makes Othello say of himself: "That's he that *was* Othello; here I am," do we not with one accord feel that the poet is but giving expression to a basal trait of human nature?

Yes, we ordinarily admit all of this—but with reservations! The truth of the matter is that we play fast and loose with two contradictory views of mind, using each according as it suits our purposes of the moment, and all the while unconscious of the basal inconsistency into which we fall. Of course, we admit that individuals change, that one grows from childhood to maturity, that when one becomes a man one puts away childish things, that one may, like Othello, see the error of his ways, repent him of his evil deeds, and so come by degrees to assume a different attitude towards the vicissitudes of life. But in spite of such admissions, there is always an underlying reservation to the effect that the child and the mature individual are somehow identical, that Othello, had he never changed, would have been Othello still and somehow in the same sense. The changes which we are ordinarily willing to admit touch, as it were, but the outward show of mind—the suits of clothes it wears. But mind itself in its innermost being, we continue to feel, changes not but remains identically the same from day to day and from year to year. Just as the individual's name remains the same throughout his life, so, we are prone to suppose, the individual's mind remains the same; it is somehow received once for all at birth and *in toto*, as if it were a finished gift accompanying the birth-certificate.

> The Soul that rises with us, our life's Star,
> Hath had elsewhere its setting,
> And cometh from afar.

Thoughts change, feelings change, interests and purposes change, ways of behaving and believing change—this we all not only admit but insist upon. But, despite such admission,

we still cling to the notion that such is not true of mind *as it really is;* in its deeper nature, we still assume, it remains precisely the same mind throughout its existence. It dons and doffs its sundry suits of clothes—but always with comparative indifference to itself! For "is not Religion a cloak, Self-love a surtout, Vanity a shirt, and Honesty a pair of shoes, worn out in the dirt"? And is not the individual different from all these?

The sharp separation which we ordinarily make between thought and language is a peculiarly enlightening example of this static view of mind; and the fact that the abstraction seems to us so natural is but an indication of the persistence with which, despite our admission of change, we cling to the notion that in its deepest nature mind is fixed. We are prone to believe that language is somehow quite distinct from the content which it symbolizes, that we may express our thoughts in various terms which are largely indifferent to the ideas expressed. What we *say* and what we *mean* are, in common opinion, two quite distinct things. Our meanings, so we suppose, may be paraded in sundry garbs without being affected by the transformations, very much as one and the same individual may appear on different occasions in various suits of clothes. Indeed, we not infrequently talk of "thought-patterns" or "thought-forms," all the while assuming that such "patterns" or "forms" are something radically sundered from the thoughts themselves. As I hope to show in another context,[4] there is a sense in which meanings are different from language; as aspects of our environment they constantly spill over our formulas and lead out into the environment far beyond the limits set by our halting terminology. But there is another sense in which meanings cannot be sharply separated from the symbols or terms in which they are expressed—when viewed, namely, as experiences of the mind that entertains them. In this

[4]See Lecture V, below.

reference what we say and what we mean are identical; herein, if I am not mistaken, lies the truth upon which the behaviorist is insisting when he identifies thinking with talking. What I mean when I say that matter is atomic, for instance, may from the first point of view be quite different from the term I use; I may mean simply that matter is presumably such that the word "atomic" fits its nature, though admitting that it conceivably might turn out to be such that the adjective will be seen not to be an appropriate phrase of description. But what I mean, viewed from within the compass of mind, is precisely what I say; matter for me is atomic if I seriously entertain that view of it, and it is atomic in precisely the sense in which I understand that term. Obviously, matter as atomic is for me, who am largely innocent of recent advances in chemical and physical research, a meaning in many respects different from that of the trained physicist or chemist at home in the appropriate mathematical symbolism; while for Democritus, who was one of the first to make use of the phrase, the meaning belongs to a universe of discourse that is almost wholly different from that of the modern scientist. It is simply erroneous to suppose that because the same word is used in each case the meanings are the same; the plain truth is, the meaning is different in each instance, and what is meant is precisely what is said. In other words, not to labor the point further, meanings may be looked at from two points of view: as fragmentary aspects of the environment leading outwards into it, and as experiences within a mind pointing outwards. Meanings, in the first view, may be, and I presume generally are, separable from terms of description. In the second view of them, however, meanings and terms are inseparably entertwined, they are in fact identical; and it is a serious mistake, subtle to be sure but all the more disastrous on that account, to suppose that they are only incidentally and superficially connected. Such a supposition, I repeat, is merely a peculiarly instructive

example of the more general prejudice that holds us bound —the prejudice, namely, that mind is somehow static in the midst of experiences.

But if the thesis we are here defending is to be allowed to stand, this prejudice must go; both cannot stand together. If mind is to be made intelligible, so we have argued, it must be plumply set in the midst of experiences. But if it is so set, then it must be held to be subject to the vicissitudes of change; in its innermost nature and all in all it must be said to be shot through with time. If our thesis is in principle sound, then we cannot literally be said to *have* minds, we *pursue* them; mind is not a gift of grace,[5] an endowment, it is rather an acquisition. There is nothing in mind that stands still; it is never precisely identical with itself. Sundered from bodily mechanisms and from acts of experiencing, mind is a meaningless abstraction; linked with bodily mechanisms and concrete acts of experiencing, it is a thing of degrees and variations, a process, an activity, and nothing in it is not "bitten by the tooth of time." For mind as thus conceived, *to be is to become.*

A basal difficulty standing in the way of this conception of mind arises from a peculiar theoretical prejudice that besets us all alike. This prejudice—which, I think, might well be classified as one of Francis Bacon's famous "Idols of the Tribe"—is the tendency to suppose that what anything *really* is it has always been and always must be, that if X really is so-and-so then X must be eternally just that. This tendency is natural to us, how natural may perhaps be brought out by a simple experiment. Let anyone undertake for a moment seriously to think of *perfection* and

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[5]Except in so far as it can be shown to be purely hereditary. How far it is such is a question of fact to be determined by scientific inquiry into the laws of heredity. But, in any event, it is fairly clear that mind is not wholly hereditary; partly, at least, it is acquired. And even as hereditary it must *grow.*

to formulate what seem obviously to be some of its main characteristics. Among these, I venture to predict, will appear the notion of *completedness;* that which is perfect, we are naturally inclined to suppose, must be somehow finished and fixed. It is a state of being, a something, which is so completed and finished that any change within it would ruin it; it is such that it cannot, without losing its perfection, change. This is especially evident in our conception of God; the very perfection of God, the religious consciousness of mankind pretty universally assumes, implies that He is a being upon whom there is "no shadow that is cast by turning." And perfection, be it noted, is for us the highest form of being.

The same tendency is illustrated, though from a slightly different point of view, in the difficulty we all experience in dealing with the famous dilemma of the old Greek philosopher, Zeno, designed to prove the logical impossibility of motion and usually put into the textbooks to test the acumen of embryonic logicians. You doubtless recall the dilemma. An object cannot move, Zeno argued, because, assuming that it moves, then it must move either at the place where it is or at the place where it is not; but it cannot move at the place where it is for the obvious reason that it *is* there, nor can it move at the place where it is not for the equally obvious reason that it is not there. In other words, if a thing moves or changes its position, it really *is* nowhere; hence motion or change is inconceivable. Now all of us immediately feel that there is something wrong with this argument, and we may simply dismiss it with a shrug of the shoulder. But to give a serious criticism of it is not easy. And our difficulty in dealing critically with it is due, partly at least, to our tendency to assume that somehow change cannot *be*—that there is a contradiction between change and "real" existence. It seems natural to suppose that if a thing really *is* anywhere at any time, then it must in some manner be fixed and permanent.

This tendency is the reason why the statement that mind is identical with what is becoming sounds like a paradox, if, indeed, it does not appear to be a flat self-contradiction. But this tendency is a mere prejudice based upon a confusion. Unless I am mistaken in my analysis, the confusion upon which it rests is between two quite distinct meanings of that very elusive verb "to be." These are what I shall here venture to name the "static" and the "dynamic" meanings. On the one hand, when I say that something, X, *is* so-and-so, I may mean to refer to X as it exists at a given moment of time. Thus, for instance, when I say, "The apple is red," I mean that the apple as I now observe it presents that appearance. Again, when I say that something is so-and-so, I may mean to refer to the thing, not as it is at any given moment of time, but as it is through a series (longer or shorter) of moments. Thus, the statement, "The child is father to the man," means that the child is such only in the sense that it possesses certain qualities which run through time and which the future alone can reveal. Obviously, the child "is" father to the man in a sense very different from that in which the apple "is" red; the apple is (statically) red, the child is (dynamically) father. The same difference in meaning may be brought out by a criticism of the dilemma of Zeno mentioned above. Zeno's argument that an object cannot move because it must always *be* somewhere, rests upon the assumption that an object can be only where at any given moment it is *in the static sense of the word.* The argument neglects entirely the dynamic meaning of "isness"; it completely overlooks the possibility that an object may very well *be* where it *is moving.* Taking into account this possibility, we see that the dilemma loses its force; for the possibilities now are that an object may move either at the place where it is, or at the place where it is not, or at the place where it is moving. Thus it seems clear, generalizing our results, that when we speak of anything as being thus-and-so we may

refer either to what it is now or to what it is when it is, so to speak, on the wing—either to what it is statically or to what it is dynamically. And which reference is meant is a matter of great importance.

Coming back, now, to our thesis that the being of mind lies in change and applying to it the principles meanwhile set forth, it is clear that there is no logical difficulty involved in such a statement. The appearance of paradox arises from confusing the static and the dynamic meanings of being. If we keep before us the distinction between these two meanings, there is no difficulty in seeing that the being of mind may perfectly well lie in its becoming. There is no contradiction involved in the statement; it amounts simply to saying that mind *is* dynamically, and not statically or fixedly. It is not only what at any given moment of time it happens to be; it is also what in the past it was and what in the future it will be. Like a stream it is ever on the go, and it either swells as it advances or it tends to meander and disappear. But in either case, it is what it is becoming. There is no logical difficulty in such a conception, as I have just tried to show. And I have also argued at length that such a conception is the only intelligible conception of mind. And with this we may consider that the thesis of this discussion is in principle established—a thesis which we may now summarily put in the form of a dilemma: plumply set within its concrete experiences, the nature of mind lies in process; abstracted from its concrete experiences, it is for us nothing.

This is not the place to enter upon the consideration of the wider reaches of the principle involved in the distinction we have just drawn between the two meanings of being. But I may not forbear to mention the fact that mind is not the only phenomenon in this world of ours whose being lies in process and change. There are many other objects whose nature is shot through with time and therefore describable only in temporal terms. All biological phenomena are, I

take it, of this sort. The cell, for instance, has its being precisely in its activity; take the cell out of time, or, rather, take time out of the cell, rid it of change, rob it of its activity, fix it in a static mold in your conception of it, say of the cell that it is precisely what at any given moment you may observe through the microscope, and what have you left? Certainly not something that is of any great concern to biological science. You have only a lump of matter which has lost its interest to the biologist, except in so far as a snap-shot view of the cell may serve to indicate the functions that attach to it in its normal existence. When in your conception of the cell you arrest it at any stage of its activity and proceed to deal with it in entire abstraction from its dynamic drive, you have ruined its biological nature; as a biological phenomenon it is precisely its functional activity. Nor can one readily conceive of anything that "is" exclusively in the static sense. We used to think that the ultimates of physics and chemistry are fixed bits of matter whose being is static; but the results of recent researches are teaching us differently, since matter and energy threaten to merge. Even space itself, Einstein has presumably shown us, is not so sharply sundered from time as has hitherto been supposed despite its apparent fixity. The truth is the farther analysis carries us into the secrets of the world, the more does it seem the rule that to be is to become; mind is by no means unique in this regard.

In the first lecture reference was made to a certain type of pessimism based upon the consideration that the mind of mankind is forever restless, constantly changing its outlook, and not infrequently at outs with itself. I there ventured to suggest that such a pessimism is based upon a false assumption. We are now in position to see why the assumption is false, and I wish in conclusion of this discussion briefly to return upon that point.

Occasionally we hear the cry raised that progress in mental development, progress in civilization, does but lead

us into greater insecurity. Rousseau raised such a cry, and it has been repeated with varying emphases since his day. And long before the time of Rousseau there were not a few who agreed with the preacher of old that "in much wisdom is much grief; and he that increaseth knowledge increaseth sorrow." There is, unfortunately, much to be said in support of this view of life. Nor can there be any question that the development of mind proceeds through conflict and instability. As it is writ large in the social order, mind is ill at ease and ever seeking without final attainment; such relatively superficial and insignificant customs as those of dress and etiquette cannot stand still, while the most conservative type of mind, the religious type, finds itself continuously driven, as it were, in spite of itself, from novelty to novelty. Even in its most reasoned surveys, the social mind is in conflict with itself. From one point of view, science is a progressive series of errors; the truths of one generation are errors of the next, and what seems preposterous to one age becomes commonplace for the succeeding ones. Biographically considered, also, mind never arrives; the goal is ever beyond, and the pursuit is one of strain and stress with much stumbling. Even at best, though I may have diligently struggled and effectively utilized the opportunities brought by the round of days,

> Yet all experience is an arch wherethro'
> Gleams that untravell'd world, whose margin fades
> Forever and forever when I move.

The experience of the individual, at its highest, is merely an epitome of the experience of the race and both apparently equally futile, like Faust's:

> I've studied now Philosophy,
> And Jurisprudence, Medicine,—
> And even, alas, Theology,—
> From end to end, with labor keen;
> And here, poor fool, with all my lore
> I stand no wiser than before.

Such a pessimistic view of life may, I think, well be condemned because it overlooks one side of the facts; it fails to take into consideration the numerous accomplishments and discoveries that prove to be both intellectually and practically satisfying. But the point of primary interest in the present connection is that the view rests upon a basically erroneous assumption, if what we have this hour argued is in principle sound. Of the mental life there is no fixed and stable goal which may be grasped in its entirety and all at once, and that for the reason that mind is precisely activity, movement, development, pursuit, change. It is not like one who takes a journey for the purpose of reaching a given destination at which the journey ends; it is rather like one who undertakes a journey for its own sake. Mind is precisely a voyage of discovery, and its voyaging is its reward; it is just those transformations through which it expresses itself. Of course mind runs through instability and change, but this is simply its nature. If mentality is worth while, therefore, the activity characteristic of it is its own excuse for being. In any event, he who hopes to find mind in a static state which knows no change, is looking for a sort of mind such as we mortals do not know. It is inevitable that such a one should be disappointed and subject to pessimistic questionings; he might as successfully search for the bag of gold at the rainbow's end. He is looking within the stream of time for that which by its very nature could not possibly exist there; for that which exists in time is temporal, it is on the go, its being is its becoming. And such is mind so far at least as we have acquaintance with it either through direct observation or through rational inference based upon observable fact.

LECTURE IV. MIND AS SYSTEM

In our preceding discussion of mind as activity the conclusion was reached that change is a fundamental feature of mind. For mind, we said, to be is to become; its nature is to be sought within the changing experiences that constitute its life. The problem before us during the present hour is to describe some of the more important aspects of the activity with which mind is thus identified. And the thesis to be defended is that the process of mind consists in the building of a system, that mind is a systematization of experiences. The goal towards which we are to proceed may be made somewhat clearer if we start by defining the two more important terms used in its formulation, namely, "system" and "experiences." What are we to understand by "system" and what by "experiences"?

The meaning of system is most readily understood when it is contrasted with a bare collection. Suppose you have before you a pile of bricks. The pile is made up of a number of objects (the separate bricks), each of which is in an important sense wholly independent of all the others; the bricks are simply heaped together in indiscriminate fashion, and the only reason we call them a pile is because they exist together in certain spatial relations. The pile of bricks we may take as typical of a collection. Now a system is different in many important respects. It may be illustrated by any organism. The human body, for example, is composed of many parts (hands, eyes, ears, heart, and, on further analysis, cells of various kinds), each of which is more or less intimately connected with the others and all of which, taken together in their organic relations, constitute the body. The body is not a collection, it is a system. Or again, to take examples from quite a different fiield, the numbers 1, 90, 70, and 11 compose a bare collection of numbers; there is no

number that is logically next in the series. But the numbers 4, 8, 16, 32, etc., are not a collection; they constitute a system. Wherever the series may stop, there is a logically next number which may be derived by the simple arithmetical device of multiplying the number last given by 2. These examples are sufficient to suggest the basal difference between a collection and a system. A collection is simply a number of things incidentally related to each other, and, so, capable of being sundered without hurt. A system, on the other hand, is a number of items so related that each is inherently connected with all; each is an indispensable part, and all taken in their interrelations form a logical or natural whole. Subtract a few bricks from the pile, each brick is still a brick as before and the pile itself is unhurt save in respect of its size. Take an eye from the body, however, and it is an eye no longer nor is the body any longer whole. By system, then, we mean roughly this: a group or manifold of items such that every item participates in, and more or less fundamentally contributes to, the unity of the whole.

The word "experiences" has occurred frequently in our previous discussions, but it is well for us to make sure that its meaning is plain. This is especially necessary since I wish to use it in the present context in a sense somewhat different from its usual meaning; for I wish here to include in the word not only such activities as believing, thinking, feeling, perceiving, and the like, but also unconscious tendencies and even instincts in so far as these in any way enter into the life of mind. So, by an "experience" I shall understand any happening that may in any sense be called a mental event; any specific activity (hereditary or acquired, conscious or unconscious) which has to do with mind as one of its functions I shall call an act of experiencing. This usage, while somewhat unusual, need cause no confusion and will save some circumlocution.

When I say, then, that mind is a system of experiences, I mean simply that mind is to be conceived as a number of

specific experiences (broadly defined as above) which interpenetrate in such a manner as to form the whole which we call mind. We have already argued that mind is its experiences, or it is wholly unintelligible. We are now to argue that mind is these experiences or activities linked in the form of a systematic whole.

And, first, I would have you consider whether mind may be said to be a care collection of experiences. I am at a loss to understand how it can be so regarded, except its nature be thereby falsified and the facts perverted. This conception of mind belongs by right to the atomistic psychology of the eighteenth century, finding its chief advocacy, perhaps, in the writings of David Hume. And it was, in fact, reduced to a logical absurdity by Hume himself, despite his advocacy of it, when he followed its implications with such precision that he virtually denied the possibility of all knowledge. Why this conception of mind should have been held during the eighteenth century is not very difficult for us at present to see. The point of view of the age, which interpreted everything after the analogy of a machine, was wholly sympathetic to it. At present, so far at least as I am aware, few if any competent authorities could be found to hold that mind is nothing more than a bare collection, or, as Hume phrases it, "bundle of experiences." But it may not be amiss for us briefly to argue the matter as a preliminary consideration to our further inquiries.

I presume it will readily be granted that mind cannot be wholly identified with any single conscious experience or with all the experiences of any given moment of consciousness, since all experiences come and go with great rapidity and all moments of consciousness soon fade away and die, while mind in some sense perdures through life. Feelings are evanescent, as the poet has reminded us; memories appear and disappear; thinking at its best takes place only for a relatively brief time; nor can you mention any other conscious experience which is not

Like the borealis race,
That flit ere you can point their place;
Or, like the rainbow's lovely form,
Evanishing amid the storm.

All conscious experiences are transitory; they arise and soon perish within the stream of time. But mind somehow runs on through all the moments of at least a lifetime. Consciousness itself is in no better case. A dreamless sleep, for instance, may cause consciousness to disappear, while the deeper sleep of anaesthesia even more surely annihilates consciousness—it sputters and goes out like a burnt-out candle. But neither normal sleep nor anaesthesia seriously touch the continuity of mind; between the disappearance and the reappearance of consciousness mind bridges the gap and runs again smoothly as if nothing had happened. There can be no disputing the fact, whatever may be the final explanation of it, that the loss of consciousness or the disappearance of any given experience is not in any sense equivalent to the loss or disappearance of mind. Otherwise, we should all be worse than lunatics; a nod would ruin us and the cessation of, say, a painful feeling would threaten our mentality.

But if it is clear that mind may not be identified with any given conscious experience or with the total experiences of any given moment of consciousness, it seems to be equally clear, at least on a little reflection, that mind may not be identified with any collection of experiences even though the collection be supposed to contain all the experiences of all the moments of consciousness that any individual may throughout his life entertain. One of the fundamental characteristics of mind is the capacity to learn. Indeed, this capacity is so fundamental to mind that it is pretty safe to assume that mind is present in however simple organic forms where learning is known to take place; and where learning is impossible,

there we may very reasonably say mind is not normal even if it can in any intelligible sense be said to exist. We should not be very far from the truth were we to say baldly that mind is the capacity to learn, and, conversely, the capacity to learn is mind; certainly it is not readily conceivable what mind could be when robbed of this capacity. But what precisely is the capacity to learn? It is nothing but the capacity to preserve the results of past experiences and to make them function efficiently in present conduct. The chick which avoids certain sorts of caterpillars because it has formerly found them nasty to the taste, the cat which escapes readily from the maze because it has done so frequently before, the child which speaks a language as a result of its previous experiences, the adult who understands a science because of his constant application to its problems and principles—all of these have learned; and their learning consists simply in linking past experiences to present situations efficiently. The process of funding or conserving the results of experiences that are dead and gone with the past and of making them function in new situations that arise with the present—this is learning. But, and here is the point to be emphasized, this process would be utterly impossible if minds were nothing but a collection of experiences. In that event, no past experience could function in the present; for past and present would then be radically sundered and functionally disconnected, just as the several bricks in the pile are distinct from each other and the nature of one brick cannot affect or be affected by that of its neighbor. Learning presupposes retentiveness, is, in fact, just retentiveness of experiences; and retentiveness of experiences would be impossible if they were related to each other only in the sense in which the different items of a bare collection are related. Therefore, since learning is one of the basal characteristics of mind, the conclusion that mind is something more than a collection of experiences and

conscious moments would seem to be inevitable. In Santayana's phrase: "To think you have composed consciousness by collecting its objects is like thinking you have created knowledge by collecting a library." The same holds in principle of that continuity of consciousness which we call mind. The unity of mind is not that of a haphazard grouping, for it is characterized by a kind of unity which such a grouping simply does not possess.

The only conception that will do justice to facts like those indicated above is the conception of system. Mind is such a unity that its various experiences, both those existing simultaneously and those existing at different times, are so intimately linked with each other that they exert a mutually determining influence. Learning involves the meaningful interlocking both of experiences which happen together and of present experiences with those that are to follow. And this means that mind itself is at once an interrelation of simultaneously existing experiences and of experiences that are successive in the stream of time; for mind, from one point of view at least, is identical with the learning process. Mind runs through and interrelates the numerous experiences of the present, and it also ranges hither and thither, in time binding past, present, and future into a connected whole. Or, to express the matter more accurately, mind *is* this interrelation of experiences, this unity of past, present, and future. It is, in short, a systematic arrangement of experiences.

Lest the foregoing statement of the matter seem too abstract, let us look for a moment at some relevant facts. And first I shall quote somewhat at length from two careful observers of the mentality of the lower animals:

"With regard to the objects at which domestic chicks peck, in the absence of parental guidance, one may say," according to Professor Lloyd Morgan, "that they strike at first with perfect impartiality at *anything* of suitable size; grain, small stones, bread-crumbs, chopped-up wax matches,

currants, bits of paper, buttons, beads, cigarette ash, their own toes and those of their companions, maggots, bits of thread, specks on the floor, their neighbor's eyes—anything and everything, not too large, that can or cannot be seized is pecked at and tested in the bill. Similarly with young pheasants, guinea-fowl, and moorhens. . . . There does not seem to be any congenital discrimination between nutritious and innutritious objects, or between those which are nice and those which are nasty. . . . They soon learn, however, what is good for eating, and what is unpleasant, and rapidly associate the appearance with the taste. A young chick two days old, for example, had learnt to pick out pieces of yolk from others of white of egg. I cut little pieces of orange-peel of about the same size as pieces of the yolk, and one of these was soon seized, but at once relinguished, the chick shaking his head. Seizing another, he held it for a moment in the bill, but then dropped it and scratched at the base of his beak. That was enough; he could not again be induced to seize a piece of orange-peel. . . . To some other chicks I threw cinnabar larvae, distasteful caterpillars conspicuous by alternate rings of black and golden yellow. They were seized at once, but dropped uninjured; the chicks wiped their bills—a sign of distaste—and seldom touched the caterpillars a second time. The cinnabar larvae were then removed, and thrown in again towards the end of the day. Some of the chicks touched them once, but they were soon left. The next day the young birds were given brown loopers and green cabbage-mother caterpillars. These were approached with some suspicion, but presently one chick ran off with a looper, and was followed by others, one of which stole and ate it. In a few minutes all of the caterpillars were cleared off. Later in the day they were given some more of these edible caterpillars, which were eaten freely, and then some cinnabar larvae. One chick ran but checked himself, and, without touching them, wiped his bill—a memory of the nasty taste being apparently suggested by

association at the sight of the yellow-and-black caterpillar. Another seized one, and dropped it at once. A third subsequently approached a cinnabar as it crawled along, gave the danger note, and ran off. Then I threw in more edible caterpillars, which again were eaten freely. The chicks had thus learned to discriminate by sight between the nice and the nasty caterpillars. Similarly, moorhen chicks rapidly discriminated between small edible beetles and soldier beetles. Such discrimination is, however, not congenital, but acquired."[1]

Professor Thorndike made a number of experiments with animals by confining them in boxes of varied construction from which escape was possible by some more or less simple act such as turning a button, pulling a lever, pushing a bolt, and the like. The animal was confined when hungry, and food was placed outside as an added stimulus to escape from the box. Commenting on the results of his experiments with cats, he writes: "When put into the box the cat would show evident signs of discomfort and of an impulse to escape from confinement. It tries to squeeze through any opening; it claws or bites at the bars or wire; it thrusts its paws out through any opening and claws at everything it reaches. . . . The cat that is clawing all over the box in her impulsive struggle will probably claw the string or loop or button so as to open the door. And gradually all the other non-successful impulses will be stamped out and the particular impulses leading to the successful act will be stamped in by the resulting pleasure, until, after many trials, the cat will, when put into the box, immediately claw the button or loop in a definite way. Previous experience makes a difference in the quickness with which the cat forms the associations. After getting out of six or eight boxes by different sorts of acts the cat's general tendency to claw at loose objects within the box is strengthened and

[1]Lloyd Morgan, *Habit and Instinct*, pp. 40-42.

its tendency to squeeze through holes and bite bars is weakened; accordingly it will learn associations along the general line of the old more quickly. Further, its tendency to pay attention to what it is doing gets strengthened, and this is something which may properly be called a change in degree of intelligence."[2] Experiments carried out by Professor Thorndike with other animals disclosed essentially the same results, though there are naturally considerable variations in details.

I have given these two quotations thus at length for the purpose of showing how the results obtained from careful observations of lower animals indicate that at that level mind is a systematic arrangement of experiences. When the chick learns that the cinnabar caterpillar is distasteful and thereafter shuns it even on sight, or when the cat learns that the door of the box will open in response to a specific act on her part, and thenceforth proceeds immediately to perform that act when placed in the box, it is fairly evident that two events of importance have taken place in the mental life of the chick and the cat. In the first place, there has been established a certain connection among experiences: the chick has linked the visual appearance of the caterpillar with its taste, and the cat has linked the act of clawing the string or loop or button with the pleasure of escaping from confinement. In the second place, the association, once formed, exerts a determining influence upon the future behavior of the animal: when the chick once again sees the yellow-and-black caterpillar it refrains from pecking and eating, and when the cat is once more placed in the box her random and useless movements are inhibited and the effective impulse followed. In both of these processes, the associative connection among different experiences and the retention of this connection as a factor determinant of future behavior, show that the minds of these

[2]Thorndike, *Animal Intelligence*, pp. 35-48.

lower forms, whatever minds they may be said to have, are systematic arrangements of experiences. Now there seems to be sufficient evidence of the sort quoted above to indicate that all animals learn in essentially the manner of the chick and the cat. And so we may broaden our conclusion and apply it generally to all lower forms of mind, in so far at least as mind is to be identified with the ability to profit by experiences.

Turning to mind in the more complex form in which we are directly familiar with it, as exemplified, namely, among human beings, the same inference seems inevitable. I shall not here presume to enter upon details, but will only suggest certain broad facts that seem to bear directly upon our thesis and with positive import. Among the features of the mental life of human beings, which would appear to be inexplicable except upon the hypothesis that mind is a systematic interlocking of experiences, the following certainly should be given great weight: the acquisition of language; the development of the emotions from the simpler ones like fear and anger to the more complex ones like patriotism and reverence; the growing capacity to perform acts of ever-increasing complexity, from a specific response to a relatively simple situation up to the purposeful pursuit of a life's ambition; and the creation and expansion of the sciences, arts, and religions. All of these accomplishments are possible only to beings whose experiences, though marvelously complex, are yet systematically joined. In the case of mankind, indeed, the systematic nature of mind is so commonly recognized that we have a special term to indicate it. That term is "self." Precisely what is to be understood by this term is, to be sure, still a matter of debate, and there are wide divergencies of view concerning it. But stripped to its essentials, it would seem to refer to the unity and the continuity of the life of mind—a unity and continuity that can be envisaged only in terms of system and organization. In the words of an eminent psychologist:

"The self is merely all that we are and know, organized, self-unified, and self-identical, a growing vital unity that as a whole is effective in every experience. When it is directed to the control of action, we know it as will; when choosing from the many stimuli that offer, as attention; when interpreting the stimulus, as perception or judgment; when constructing new forms from old experiences, as reason."[3] The self is system, it is mind viewed as the systematic arrangement of experiences. And this interpretation of it is necessitated by the effort to make intelligible what human beings accomplish in the way of learning and of creative activity.

Mind, then, wherever found, whether at the human level or below, we conclude is a system of experiences, that is, a unity such that the experiences which constitute it are functionally and reciprocally connected. The substantiated as well as the anecdotal facts of animal psychology support this view, and the facts of human psychology and of human achievement even more clearly involve the same implication. In its normal functioning, mind is psychical integration.

This view of mind has, in certain of its aspects, been emphasized in the history of philosophy particularly since the days of Kant. As Professor Hobhouse points out in his *Mind in Evolution:* "The function which modern philosophy seized upon as explaining the vital essence of mind was that of bringing things together so that they have a bearing upon one another. Where there is mind, there is order and system, correlation and proportion, a harmonizing of forces and an interconnection of parts."[4] In spite of this emphasis, however, the organization of mind has frequently been abstractly conceived in its traditional formulation. Kant identified the unity of mind with what he called a

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[3]W. B. Pillsbury, "The Ego and Empirical Psychology," *Philosophical Review*, Vol. XVI, p. 406.

[4]P. 6.

"transcendental" principle—a principle, that is, which is independent of all particular experiences and which is somehow to be defined in abstraction from them. So, while he sharply criticized the older spiritual-substance view of mind and held it to be untenable, he nevertheless remains satisfied with the separation which the older view made between the unity of mind and the particular experiences in which that unity is manifest. And modern philosophy has been inclined to follow Kant too closely in this regard. But from the point of view here defended, it is precisely this separation that must be given up; unless it is, then the view of mind as system is subject to the same criticisms we have advanced against the spiritual-substance view, since it is equally abstract, and abstract in the same sense. The system which mind is must be sought nowhere save within the experiences themselves, it is immanent in them—this is the main emphasis of our present thesis. And I wish now to turn to a brief consideration of this phase of the matter by noting some of the characteristics of the making of mind. Granting that mind is system, how is it built and what are some of the main features of its construction?

The question as to how far down in the scale of life mind is found, is, I presume I am safe in saying, a question to which in the light of our present knowledge no unambiguous answer can be found. Ordinarily we do not hesitate to attribute mind to all of the vertebrate animals. Nor do we have to draw greatly on our credulity to accept the statement that invertebrates are also equally fortunate; they are at least possessed of something strikingly analogous in function to what in the higher forms we call mind—even the lowly amoeba moves about, appropriates nutritious substances, avoids injurious substances, and otherwise behaves as if it were faintly aware what it is about. It is not to be forgotten, however, that plants do likewise; they send their roots downwards and their branches upwards, they extract nutrition from soil and air and water, they

seek the light, and some of them at least, such as the sensitive plant and the Venus' fly-trap, respond to mechanical stimuli with something of the precision of an instinct. But we are loth to attribute mind to plants and flowers; and when the poet speaks of the "dancing daffodils" we acquit him of absurdity only by giving him poetic license thus to amuse himself and others, and, withal, belie nature by an unscientific metaphor. Nevertheless, it must be remembered that there is no point in the series of living things where we may be certain beyond reasonable doubt mind stops; any stage of life you may choose is in fact open to legitimate question. But what about the inorganic realm? There is no sharp break between the organic and the inorganic. Organic bodies are composed of elements found in inorganic substances; and inorganic matter behaves, as it were, because of "attraction" and "repulsion." Why, then, deny mind to the inorganic? Why not hold with the botanist, Naegeli, that "the same mental thread runs through all material phenomena. The human mind is nothing but the highest development on our earth of the mental processes which universally animate and move nature." Why may not the moon "look 'round her with delight when the heavens are bare"? Is it only a pretty fancy, or is it perchance a sober truth, that there is

> A motion and a spirit, that impels
> All thinking things, all objects of all thought,
> And rolls through all things?

I raise such questions solely for the purpose of emphasizing the point that an offhand and flippant answer, whether affirmative or negative, is wholly dogmatic. Like all of you, perhaps, I deem it purely imaginary to think of inanimate nature as being in any intelligible sense such that we may call it mental. And yet this cannot strictly be proved; and there are many factual considerations that may be advanced against it, as the reader of Fechner's

Zend Avesta may testify. We know that mind exists in some living forms; we are certain about human beings, and we are practically certain about the higher brutes. But when we get beyond the vertebrates, the darkness deepens. How far down towards the inorganic mind goes, or whether it is even suffused with the inorganic, we simply do not certainly know. *Ignoramus* is the answer we must give here, if we are willing to express that rare modesty which reason always demands of her whole-hearted devotees; whether we must also add, *Ignorabimus,* is a question which, if pursued, would lead us far beyond the limits of our survey. For our present interest is not to ferret out the origin of mind or to inquire how far we can go towards it, but rather to study some of the main features of mind in the making at those levels where the question concerning its existence may not reasonably be raised.

As a point of departure, let us take a specific case of the making of a mind at one of the less complex levels. We might refer back to the case of the chick or the cat mentioned above, but it will be better to turn to another of Professor Thorndike's observations in the report of which he definitely describes how a monkey actually acquired what I shall here take the liberty to call the monkey's box-banana-mind. Here is the account: "A monkey was kept in a large cage. Into the cage was put a box, the door of which was held by a wire fastened to a nail which was inserted in a hole in the top of the box. If the nail was pulled out of the hole, the door could be pulled open. In this box was a piece of banana. The monkey, attracted by the new object, came down from the top of the cage and fussed over the box. He pushed the box about and tipped it up and down. He played with the nail and finally pulled it out. When he happened to pull the door again, of course it opened. He reached in and got the food inside. It had taken him thirty-six minutes to get in. Another piece of food being put in and the door closed, the occurrences of the first trial

were repeated, but there was less of the profitless pulling and tipping. He got in this time in two minutes and twenty seconds. With repeated trials the animal finally came to drop entirely the profitless acts and to take the nail out and open the door as soon as the box was put in his cage. He had, we should say, learned to get in."[5] Or, as I prefer for our present discussion to express it, he had grown a box-banana-mind.

Now, what does the accomplishment of the monkey teach us about the development of mind? In the first place, it is another illustration of our thesis that mind is a systematic arrangement of experiences. The haphazard tipping of the box and the indiscriminate pulling at its various parts issue finally in a coördinated movement which leads directly to the opening of the box and the seizing of the food inside. The various experiences are merged, some through elimination and others through coördination, into the total behavior which we call the monkey's box-banana-mind. The performnace of the monkey, like the performances of the chick and the cat, show that mind is system. But how precisely is the system in the present instance built? This is the question now before us.

Two principles of importance are involved in the process. The first is that selection is operative. Out of many movements, some appropriate and some not, the monkey finally selects a combination of appropriate ones which leads immediately to the desired result; he at last learns to pull out the nail, open the door, and take the food. And this selection, as is of course inevitable, involves the elimination of many useless movements such as tipping the box and pulling at the bars on the door. But, besides the selection of the appropriate movements, there is something else of very great significance taking place in the growth of the monkey's box-banana-mind; and that is an increasing familiarity with

[5]Thorndike, *Animal Intelligence*, p. 283.

the nature of the box. When the box was first thrown into the cage it was solely an object of more or less intense Simian curiosity; it was a mere something-to-be-taken-up-and-turned-about-in-a-haphazard-manner. But, when the monkey's box-banana-mind is full grown, the box has become a definite object demanding on the monkey's part a specific type of response; it is no longer merely an object to be gazed at curiously or to be handled carelessly, but it is an object-with-food-inside-to-be-obtained-by-means-of-a now-specialized-type-of-behavior. If you will permit me to say so, the box at length acquires a "meaning" for the monkey. Let me hasten to add, however, that I do not wish by this statement to imply that the monkey has an "idea" of the box or an "image" of the banana inside—though he might, for all I know, have both. Particularly would I not like to be held responsible for here having asserted that the experience of the box in the cage leads the monkey to plan beforehand his method of procedure in gratifying his desire for the food inside, as the sight of the squirrel in the tree may lead the small boy to run into the house to fetch his gun. What I wish to say with reference to the monkey's case, and what I think is fairly obvious about it, is simply that the box, which at first held a very vague place in the monkey's flitting curiosity, comes by degrees to acquire a more specialized center in his consciousness and finally to appeal to him as an object presenting a familiar appearance and to be reacted to in a direct and specific manner.

There is another side to this growth of the Simian box-banana-mind which is of great practical import. The monkey's previous equipment, his heredity and previous training, is the soil out of which his box-banana-mind grows. There is a certain "drive" operative from the beginning. The monkey already knows how to use his hands, how to seize the box, how things of this sort may be handled, and he is endowed by Mother Nature with an

abundance of peeping curiosity. These past acquisitions and gifts of endowment are the source out of which the box-banana-mind springs, the soil whence it grows. Starting with these, the monkey makes a new acquisition; he adds to his capital. By using the talents that are his, he gains other talents—he pushes his mind a stage farther in its development. And it is clear that apart from these previous capacities the box-banana-mind could not have grown; bereft of his powers of locomotion and use of hands, shorn of his capacity to localize the box and his curiosity to examine it, our Simian friend would have remained to the end, so far as the box and bananas were concerned, a hopelessly idiotic monkey sitting where fortune had placed him in his cage.

The growth of the box-banana-mind in the monkey is, we seem warranted in supposing, typical in its broad outlines of the development of mentality among the brutes. If this be true, then we may generalize the lessons it brings us. Doing so, we arrive at the conclusion that the lower forms of mind are built out of the results of previous experiences or heredity; and the process of its building is the two-faced one of selection of responses and acquaintance with stimuli. In the process behavior is focalized through the selection of fitting movements and the eradication of useless and inappropriate ones—this is one side of the process. The other side is a progressive acquaintance with the stimulus or situation responded to; the object ceases to be a strange one and gains a certain intimacy which, at the higher levels of mind, we call "meaning." It must not be forgotten that these are merely two aspects of one and the same process—the growth of mind. And the process takes its rise out of the mental system previously developed through the experiences (hereditary or acquired) of the past.

But these are not only characteristic features of the growth of the lower forms of mind, they seem to hold

broadly of the human also; and I wish now to emphasize this point. To be sure, in speaking of human mind we are compelled to make use of terms which we should sparingly, or not at all, apply to mind in its lower levels for reasons that will later concern us. But the main principles of organization remain the same throughout the reaches of the mental life, so far at least as we can with any degree of certainty observe them; there is no marked break between the lower and the higher. Take the human mind at what stage of its development you will, and you will find, if I am not mistaken, that it is featured by the same dual process which we have seen above is characteristic of the lower forms. Three examples may serve to justify this statement, and I shall choose those that seem to be typical of the broad ranges of human mental activity.

Every normal child sooner or later learns to identify the face of its mother; let us call this the child's acquisition of the mother-mind. What happens here? Out of the numerous stimuli of its environment the child selects one, namely, the visual appearance of its mother's face, to which it responds in a progressively specialized manner, and which, consequently, gradually assumes for it a significance, a familiarity, that no other object possesses. The child's mother-mind is, thus, built through the inhibition of irrelevant responses and the habituation of appropriate responses to the selected object which thereby grows in familiarity and significance—the child jumps, coos, and smiles when the familiar face appears. And, of course, the child's inherited capacities and funded experiences are basal within the process. Again, on a higher plane, take the case of Newton's acquisition of the gravitation-mind—his discovery of the law of gravitation. Here precisely the same principles are illustrated, though on a much larger scale. First of all, there are the results of Newton's previous training in physical, mathematical, and astronomical studies; and it is clear that apart from this training the

acquisition of the gravitation-mind by him would have been simply impossible. But given this equipment, the gravitation-mind emerges, on the one side, through concentration upon a vast field of phenomena (objects as moving) and, on the other, through clothing these phenomena with an appropriate symbolism (the formula of gravitation). The phenomena were patiently observed, many suggestions concerning them were entertained, many of these were eliminated, and the correct mathematical formula at last hit upon. Meanwhile the phenomena themselves grew less and less obstinate and puzzling; and when at length the law was correctly formulated, even such apparently disparate phenomena as a falling apple and the falling moon took on the pleasing semblance of similarity—both exemplified the same law, met the demands of the same fomula, submitted to the same type of response. As a third example, let us take Poe's account of his creation of *The Raven*—his description of his acquisition of *The Raven*-mind. I cannot, indeed, think that the poet's analysis is in sober fact true in all of its details, since it is quite difficult to believe that a poem of such intrinsic worth could have been so mechanically produced. But the description is a serious attempt to analyze a specific instance of that tremendously complex mental activity known as artistic creation, and it is a rare specimen of such an analysis by an artist of unquestioned powers. Furthermore, there is reason to believe that the analysis at least touches some of the main features of the process of creative activity. How, then, did the poet, according to his own account, come by *The Raven*-mind? First came the selection (whether through intellection or emotion is a question we need not here raise) of the "tone" or "mood" of the poem—the mood of sadness. Next came the appropriate embodiment of the mood chosen, the delineation of it in metrical form; and this proceeded through the elimination of inappropriate phrases and meters and the gradual attainment of the proper poetical form, the fitting

response to the mood. And, of course, the whole movement grew out of the temperament and training of the poet; it is not readily to be supposed that any other than Poe could have reacted to the mood of sadness in the particular manner of this poem.

Now it is not difficult to see that the instances of mental growth mentioned in the preceding paragraph are characterized by the same dual process exemplified in the monkey's acquisition of his box-banana-mind. For each involves, as fundamental features, the selection of stimuli and response and a growing familiarity with the objects selected. Of all the faces it beholds, the child selects its mother's face and learns by degrees to react to it with a specific response; the face is gradually associated by the child with the satisfaction of its wants, and is responded to with an intimacy and warmth which finally culminates in the magic word, "mother." Likewise, a Newton converges attention upon moving objects, and by pondering upon them he acquires a growing acquaintance with their ways of moving that finally develops into the precise mathematical concept of gravitation. And the poet gains that familiarity with the mood to be clothed upon by which it at length is made to shine forth in the full and entrancing splendor of a thing of beauty. Is there not in all of this the same dual process at work which, as we have seen, finally led the monkey to a specific type of response to the box in his cage—the process, namely, of concentration upon, and adaptation to, an environmental situation? The mother-mind, the gravitation-mind, *The Raven*-mind of child, scientist, and artist respectively exemplify in their creation the broad principles exemplified in the growth of the monkey's box-banana-mind as he searches for his banana in the box.

May we now generalize this conclusion and say that human mind and animal mind are psychologically closely linked? We may do so on the assumption that the instances give above are fairly typical of the genetic development

of the human type of mind. And there is much to be said for this assumption. The growth of the child's mother-mind seems to be typical of mind at the perceptual level, while the gravitation-mind of a Newton and *The Raven*-mind of a Poe may be taken as typical of scientific discovery and artistic creation, respectively. And perception, scientific analysis, and artistic insight (interpreting this to include religious faith) seem to be fairly inclusive of the so-called higher ranges of the human mind—those ranges in which it is ordinarily supposed to differ most markedly from the animal. And with this we are led to the conclusion that animal mind and human mind grow in accordance with the same general laws.[6]

But is this all there is to be said? Is there no difference of importance between the animal and the human mind? Commonly there is supposed to be a difference of basal importance. To most people it seems a very far cry from the box-banana-mind of the monkey to the mother-mind of a child, the gravitation-mind of a Newton, or *The Raven*-mind of a Poe. Since the days of Aristotle it has been pretty generally assumed that the types of mind are radically distinct, not merely in degree, but also in kind. But it seems fairly clear to present-day thinkers, with almost a century of evolutionary thought behind them, that the difference is not nearly so great as has been traditionally assumed; certainly, if the evolutionary view be true, then it cannot be denied that there is kinship between the highest

[6]I realize, of course, that the points raised in this paragraph demand much discussion and elaboration, which in the present context is not feasible. I cannot help feeling, however, that the position here taken is at bottom sound, however exhaustive the elaboration and however thorough the discussion of the facts may be. In any event, it is well for the reader to bear in mind the assumption (as presented in the present context it is hardly more) upon which the above conclusion rests. But I think it may fairly be said that all researches in both animal and human psychology tend to substantiate the position here taken.

reaches of the mind of man and the lowliest forms in which mind exists. But the tradition is not wholly erroneous. There is a difference of importance between the types of mind, as is evident from their fruits; the mind of man develops into complexities that are wholly foreign to the animal mind. The box-banana-mind of the monkey apparently finds its complete and final expression in the immediate situation around which it is built; it is woven around a particular desire and stops short with it. It fails utterly to link itself with the more general context in which the box exists. The monkey knows nothing about the structure of the box or the mechanism by which the door is made fast, neither does he raise any question concerning the purpose of the observer who throws the box into his cage and watches his behavior meanwhile. The box-banana-mind of the monkey sticks fast in the immediate situation. But the mother-mind of the child, the gravitation-mind of Newton, and *The Raven*-mind of Poe are quite different; they lead out by inevitable stages into the broader context of social, physical, and artistic relations, of which they are merely incomplete fragments. When the monkey has seized the banana in the box he has learned his lesson so far as that particular situation is concerned, and his lesson is in an important sense final; he is done with the box until another banana is placed within it and the door closed. But the child, the scientist, the arist finds in the growth of one stage of mind only the beginning of a larger growth, a beginning which has within itself the impetus to its own fulfillment; mother, gravitation, beauty are only parts of an ever-widening context into which they inevitably lead. In general, mankind has its social philosophies, its sciences, its arts, its religions, all of which are constantly expanding; but none of these, we are quite safe in asserting, fall within the mental horizon of animal-kind.

The difference here may, I think, be expressed technically in some such way as the following. What "meanings" the

animal may be said to entertain do not exist for it as free symbols or parts of an ideal scheme; they exist, rather, in the form of gross total situations to which a gross total reaction is appropriate and final. To the monkey the box presumably is a total impression which engenders a bare feeling on the monkey's part to go at it and open it. The human mind, on the other hand, breaks up the total situation into definite phases which gain a general significance, a universality of meaning, by pointing beyond the total situation of which they are fragments. If one presents to the animal various objects in groups of twos, for example, the animal will apprehend their "twoness" only in so far as the two objects act together as a unitary stimulus in a total situation; if you punish the animal when it responds to one light and reward it when it responds to two lights, it will at length learn to distinguish two lights from one. But "twoness" in any numerical sense will always escape it. Present the normal child with objects in groups of twos, however, and it will sooner or later connect the duality of the various couples with the whole system of numbers. In short, there is in the human mind an ability which, so far as we can observe, is largely if not wholly lacking in the animal mind—namely, the ability to abstract from specific situations certain aspects of them and to discern in these a prophecy of other and larger systems.

On the purely subjective side this difference is exemplified in the contrast which is evident between the purposive endeavors of human beings and those of animals. Men entertain plans and carry them out, it may be, through years of effort: they build cities and systems of thought, civilizations and cultures; they pursue ideals to which the sundry episodes in their lives are contributory. But animals lack this capacity. For them the episodes are all important; their interest flits hither and yon with changing circumstances; their purposes, whatever purposes they may be said to have, fail apparently to envisage the future; they

pursue no ideals. In short, there is in human mind an ideal dimension lacking in the case of lower forms. In the case of every normal human being, mind is much more surely *one* than seems to be true of any animal; in the case of the animal it seems more nearly true to speak of its *minds.* And this is only saying over again what we have said above, though from a slightly different point of view; the box-banana-mind of the monkey is very loosely knit with its other interests, while the mother-mind of the child colors the uttermost reaches of its mental life. The mind of the animal is in an important sense plural; the mind of the human being is emphatically singular.[7]

Now I venture to suggest that this distinction is of very great importance to a theory of mind. In it lies the promise of man's accomplishments and culture—his mastery over his environment and his enjoyment of life's values. Nor is there the slightest justification for the supposition that, when we emphasize such a distinction, we run the risk of making the mind of man something mysterious and unintelligible. Such a supposition rests upon the assumption that what cannot be observed to be characteristic of animal mind is not characteristic of any mind. But such an assumption, we have already urged, is only a perverse way of thinking; one might as reasonably argue that full-grown scientific or artistic insight is mysterious and unintelligible since babies with their rattles are not capable of it. The plain truth is that animals are incompetent to entertain ideals and meanings of universal scope, while man can; and this very important fact must be given room in our

[7]Of course, I do not here forget that many perfectly normal human minds are astonishingly lacking in coherence; nor am I unmindful of the abnormal types of multiple personality. But even the most incoherent normal human mind is much more unified than the highest and most coherent animal mind; and if the incoherence does occasionally sunder the unity of human minds, that proves nothing more than that human minds may be diseased and fall far short of what at best they observably are.

theory of mind. To overlook it is an elementary error of observation, to deny it is pure dogmatism. Whatever it may ultimately signify, it at any rate is an observable fact and should be dealt with accordingly.

There is one other point which I wish in conclusion to emphasize. Notice was taken above of the fact that the conception of mind as system has been advocated in the history of modern thought since Kant. Hegel, true to the implications of Kant's views on the problem, urged that mind must be conceived as subject rather than as substance, and many have agreed with Hegel in this regard. On this point, therefore, our discussion has been in accord with one side of the historical tradition. But the view here defended is also different from the tradition, and the point of difference is of fundamental importance. The difference concerns the question of the relation between the system and its parts. The view here advocated denies any separation between the system and its parts; the system of mind is precisely the parts (experiences) in their interpenetration. The monkey's box-banana-mind is precisely what the monkey does when confronted by the box, and the mother-mind of the child is the child's responses to the familiar face. Mind in the concrete is the functional connection of experiences, in the abstract it is nothing. This view is in some respects quite different from the historical tradition since Kant; for in that tradition there has been a rather marked tendency to sunder the system from its experiences, very much as the older view sundered the substance from its accidents or qualities. Into the historical side of the matter there is now no time to enter; I mention the difference, not so much for the purpose of criticising the tradition, but rather for the purpose of emphasizing the inseparable bond between mind and its experiences as insisted upon by the view of system developed in the present discussion. The system of mind, according to this view, is not a sort of thing that binds the experiences together; it is the interfunctioning

of the experiences themselves—the system exists within the experiences as truly as the experiences exist within the system. System and experiences are simply two ways of looking at the same factual situation.

But it is now time to draw together the threads of this discussion in the form of a brief summary of its main conclusions. Mind must be conceived not only as activity, but as activity through which is obtained a systematic arrangement of experiences; for there is within mind a retentiveness and continuity that cannot be found in a bare collection of experiences, even though it be a collection of all the experiences of a lifetime. The only conception that will do justice to the continuity of mind is system, and this is true whether we think of mind at its lower or at its higher levels. The process by which this system is constructed is of a dual nature: on one side it is concentration and selection; on the other side it is the acquisition of familiarity with environmental situations which familiarity, within the ranges of human mind at any rate, we designate as meaning. The system of mind must not be thought of as somehow static or sundered from concrete experiences; to conceive it so is to fall back into the error of the traditional spiritual-substance view of mind. The system exists within concrete experiences, arises out of them and perdures through them; sundered from them it has no existence. These principles hold of human and animal mind alike. But, if mind is thus all of one piece, it still remains true that there is a basal difference between the typically animal mind and the typically human mind; for the human, through its capacity to use symbols of general significance and to penetrate the larger implications of meaningful situations, gains entrance into paths that lie beyond the reach of the animal which remains tied down to immediate situations. There are different levels of mind, and these we shall survey more carefully in the following lecture.

LECTURE V. LEVELS OF MIND

We constantly refer to levels of mind, some of which we say are higher than others. Thus, it is ordinarily assumed that animal and human minds are at different levels, and that the former is in some sense lower than the latter. Human mind, we commonly suppose, is not universally on the same level. From childhood to maturity mind runs through various levels that merge into each other with the passing years; and even mature minds vary from mediocrity, or worse, to brilliancy. The aim of the present hour's discussion is to inquire into the general meaning and significance of this distinction among levels of mind. And a convenient point of departure may be found in noting a difference of importance between normal and abnormal mind.

Broadly speaking and without reference to details, abnormal mind is set rather loose to the world of fact and builds itself around fancies and interests that have little to do with what we ordinarily take to be realities. It lives within itself, as it were, entwines itself about imaginary structures, and touches only very indirectly the structure of the outer world of things and events. The normal mind, on the contrary, links itself with the environment and grows around those things and events which constitute what we call the realities of life. The abnormal mind builds itself largely from within, the experiences through which it is created being the drift of its own life largely unhampered by environmental conditions; the normal mind finds the material of its activity within the environment towards which its drive is ever directed.

This characteristic of normal mind we have taken into account all along in our previous discussions. We have seen that mind is an activity of system-building directed upon stimuli or situations which constitute the foci around which it is built. The box-banana-mind of the monkey, of

which we spoke at the last hour, as well as the mother-mind of the child, the gravitation-mind of Newton, and *The Raven*-mind of Poe are all alike created through response to environmental conditions with reference to which the minds are oriented and apart from which they would have been utterly impossible. But we have not as yet directed attention upon this characteristic of mind for the purpose of ferreting out its significance.

This feature of mind—let us for convenience call it the objective reference of mind—is, I think we may readily see, one of its most fundamental features. Without it normal mind is simply out of the question. For normal mind is not encased in a shell, hidden within the recesses of one's skull; it is out in the open world of things and events, to be read and known. It is not spun out of nothing; its warp and woof are the hard facts of things and their contexts. The mind that tries to build itself in the air, in abstraction from the world and its ways, is abnormal, its degree of abnormality depending upon the seriousness with which it takes its castles in Spain. Even to the extent that one permits whims and personal prejudices to interfere with this contact between mind and the environment, to that extent one fails to realize what mind at its best is; for the drive of mind is always and inevitably towards realities, and any hindrance to this drive impairs mind.

From this it follows that the process of system-building, with which we have argued mind is to be identified, is also a process of penetrating into the environment. It is a voyage of discovery out into the open paths of the order of the world. And we all recognize that this voyage of discovery moves through ever-widening circles as we progress from the so-called lower to the so-called higher levels of mind. For the baby, for instance, the bottle with which it plays is something that exists in a very limited context. It is merely something to be seized, conveyed to the mouth and sucked if hunger impels, or, if seized in a moment of

satiety, it is something to be gnawed at, tipped about, fussed over, and finally discarded when flitting attention wanders off into other parts of the environment. The time soon comes, however, when the mind of the growing child sweeps out into the broader context of which the bottle is only a part. The bottle-mind grows: the bottle ceases to be merely a source of amusement or of the gratification of hunger, and expands into an object with other qualities that link it with its larger world; it comes to be an object-of-glass and therefore breakable, an object-with-a-content-that-spills and therefore to be kept right side up, an object-designed-for-certain-uses and therefore manufactured, an object, in short, which by virtue of its sundry qualities acts as a sort of index finger pointing out into the larger environment. The mind of the baby, we say, has grown into that of the child. But the mind of the child at length grows into the mind of the scientist, and so another level is reached; the bottle now becomes a rather lengthy chapter in physics, chemistry, and the art of glass-blowing. From level to level, thus, mental development is a steady march outwards into the intricacies of the environment. This is, of course, commonplace knowledge. The childish mind, consumed with its little social world of play, soon ramifies into the larger social world of earnest, the boy of the "bunch" grows into the man of organized society; the curiosity of childhood centering around the petty affairs of a largely imaginary world learns at last to know the drag of hard and unyielding facts in a world where unbridled imagination has little place, as the childish mind of fancy dies in the resurrection of the scientific mind of fact; the thrill of childhood's roseate dream, the wonderment which from time to time shoots exultantly through it, at length issues in the steady glow of artistic insight and religious devotion or in a resignation that is "sicklied o'er with the pale cast of thought." With all of this, I say, we are familiar enough. I rehearse it here solely for the purpose of placing emphasis upon the

consideration that the progress from level to level of mental life moves through an ever-expanding acquaintance with the environment—that network of relations in whose web we all are caught. From the level of the childish mind to that of the scientist, the artist, the man of affairs, or the religious devotee, the development has indeed fetched a very broad compass—how broad one may readily appreciate by the simple device of contrasting full-grown scientific insight with the child's curiosity, or artistic appreciation with childhood's exultation.

Now this contact between mind and its enviroment, this objective reference of mind, is what I understand by its "meaning" side. Meanings are not something which mind creates, they are leadings which mind discovers; they are aspects of the environment, ordinary things and events, which beckon mind on in its voyage of discovery out into the world. Since this is a matter of basal import for our present problem, I ask you to dwell on it for a moment.

When we speak of "meanings" or "ideas" we are prone to think of something hidden away in the mind and sharply distinct from things outside. This conception of meanings is erroneous, and, if pursued to its logical conclusion, leads into all sorts of insoluble problems, not the least of which is the problem how we can ever have knowledge of anything outside our minds. If meanings or ideas are encased in the cabinet of mind, how can they attach themselves to the environment? But meanings are not encased in the cabinet of mind for the reason that mind is not a cabinet. Mind, we have argued, is activity, process, system-building. And this means that mind is nothing but systems of response to environmental situations; cut off from its contact with the objective order of realities, robbed of its objective reference, mind withers and dies like a fading flower. Now the objective situations to which mind is response and around which mind builds itself are precisely its meanings or ideas. Meanings and ideas, therefore, are not hidden

within the mind; they are experiences through which the system of mind is built and by means of which it penetrates into its environment. The red lantern in the road, a flag, the whistle of the locomotive engine—these are meanings, since they beckon the mind from one context to another. And so is everything else a meaning, in so far as it performs a similar function. Meanings, then, are not subjective, they are not purely mental events taking place in a self-encased mind; they are objective in the sense that they are events inseparably linked with a context towards which they point.

Another point of significance emerges from the preceding remarks. A thing acts as a meaning or idea, we have said, in so far as it beckons mind on to something else; the red lantern, for instance, is a meaning in that it directs attention to danger. And from this it follows that the content of the meaning of a thing is the context in which it stands and to which it points. The meaning of the red lantern, that which it means, is precisely the dangerous situation (whatever it may be) which it indicates—the dangerous hole in the street, the dangerous crossing, and the like. Generalizing, we may say that whatever points mind to something else is a meaning, and that to which it points is that which it means. *X* is a meaning in so far as *X* functions in the growth or process of mind as a fragment of a larger context; what *X* means is just the context of which it is the representative.

If you have followed me with agreement thus far, another conclusion emerges which I think you are compelled to accept. And that is the conclusion that the various levels of mind may fairly accurately be defined in terms of the meanings around which they are built. The meaning that attaches to a thing in the case of a given mind indicates something at least of the nature of the level of the mind in question; and if the thing has positively no meaning, for a given mind, then that thing lies beyond the level of that

mind. Thus, the meaning a bottle has for a child is indicative of the level of the childish mind; and the meaning it has for the scientist is indicative of the level of the scientific mind. And, of course, the concept of the electron or of the notion of relativity has no meaning at all for many minds, since each exists in a context that does not fall within the scope of ordinary mental development. Levels of mind may, thus, be distinguished with reference to meanings. Nor must it be supposed that a given mind flows always on the same level or that a level of mind is measurable once for all; levels of mind vary, they ebb and flow, rise and fall. Mind, as was remarked in the introductory discussion, is a thing of degrees; its meanings change.

The distinction that we ordinarily draw between "higher" and "lower" levels of mind is at times based upon a difference between minds in respect of the comprehensiveness of their meanings. The higher level entertains meanings more comprehensive in scope than are those of the lower levels. The scientific level is higher than the childish level, because the meanings the scientist entertains reach farther into the intricacies of the environment, point to a larger context, than do those which the child entertains; the meaning of the bottle at the childish level is much less comprehensive than is its meaning at the scientific level. It is to be noted, furthermore, that the higher level includes the lower; there is no break between them, either logically or biographically. The meaning the bottle has for the scientist logically includes the meaning it has for the child, and the childish mind normally develops into that of the scientist—at least to a degree. The difference between the two levels is that the meaning of the childish level stops short with a context which is only a part of the context implied by the meaning at the scientific level; the two contexts are logically one, however, and the child grows into the man. And this is equivalent to saying that the development of mind is continuous and not saltatory; between level and level there are no chasms.

There is another interpretation of the distinction between higher and lower levels of mind which underlies many of our difference of opinion concerning practical problems that at first glance appear to lie rather far apart. When we speak of one level of mind as being higher or lower than another level, we may wish to be understood as saying that one is of greater or of lesser value than is the other—higher or lower, that is, in the scale of valuable or worthwhile things. Thus in speaking of a monkey's mind as lower than that of a human being, we may intend to assert that the mind of the monkey is not intrinsically so important or worth-while as the mind of a human being, that the destruction of the animal's mind would not be so great a tragedy as the destruction of the man's. And this, I presume, is what we ordinarily intend by the distinction between higher and lower levels of mind—for do we not commonly suppose that we individually are of much more value than many sparrows? The issue raised by this interpretation of the distinction between higher and lower levels of mind is very far-flung. It is nothing less than the issue which concerns our whole scheme of the goods and the evils of life. It underlies the basal problems of practically all of the social sciences, or, more exactly, of all sciences that have to do with the evaluation (as distinguished from the mere description) of meanings. It is certainly fundamental in economics, ethics, and aesthetics; and I think it is also basal in sociology and history, at least in one interpretation of them. It is also relevant to the problems of educational theory in no unimportant manner; while it is precisely the basal issue upon which religions divide.

Time permits us here merely to touch upon the issue as it immediately impinges on our present subject. Is one level of mind higher or lower than another in the sense that one is more valuable than the other? So far as I can see at least, the answer to this question is impossoble apart from some definition of what we are to understand by the term

"reality." And my reasons for this position are briefly as follow. Of course, there is in the first place no room for difference of opinion on the point that such a distinction is actually made by all of us. We insist upon calling some things better than others, and some things worse than others; and this distinction we apply broadly to the levels of mind. "It is better to be a human being dissatisfied," John Stuart Mill remarked, "than to be a pig satisfied; better to be Socrates dissatisfied than a fool satisfied." And I suppose we should all agree with Mill in this. Such a belief is widespread among us. But is the belief true? So far as this question concerns levels of mind, it would seem on last analysis to reduce to this: Are the systems of meanings around which one level of mind is focalized better or worse than the system of meaning around which another level of mind is woven? For when we raise the specific question whether it is true that it is better to be a human being (even though dissatisfied) than a pig (even though satisfied), better to be a Socrates (even though dissatisfied and a martyr to conviction) than a fool (even though at peace with the world and safe in his folly), we really are questioning whether it is true that the level of mind at which the pig or the fool moves is worse (intrinsically worse) than the level of mind at which the human being or Socrates moves. And this question, restated in the terminology with which we are now familiar, is equivalent to asking whether the meanings which the pig or the fool entertains may in any sense be said to be worse than the meanings which mark the mental level of the human being or of Socrates. Now, from one point of view, it seems absurd to say that one set of meanings can be better or worse than another set; meanings are meanings, facts are facts, and there seems to be nothing more to be said about the matter. And yet, looked at from another angle, the question is by no means absurd; the meanings at the so-called lower level are much less rich in import than are

the meanings of the level called higher. But the difference in point of view here is all-important; and the question concerning which point of view one is to take is determinative. But it is not difficult to see that this question is inextricably bound up with the problem of the nature of reality itself: Do the meanings of the pig-mind or the fool-mind fall farther away from the ultimate reality of things, or are they real and real in precisely the same degree that attaches to the meanings of levels called hgiher? The issue here at stake is the age-old issue between materialism and idealism, but to enter further into it on this occasion would take us too far afield.[1]

Returning now to another phase of our problem, let us first note the fact that some meanings can be fairly adequately described in terms of purely organic responses to situations, while others apparently cannot be so described. As an example of a meaning of the first kind, one may instance the bottle as a meaning in the mind of the baby. Here the bottle seems to mean something-to-be-reacted-to-in-the-way-of-bodily-response; it is something to be seized and manipulated in one way or another, and this, so far at least as we may directly know, is all the meaning it has at this mental level. There are other meanings, however, which seem to me such that they cannot be described with anything like adequacy in terms of bodily responses. As an instance of this sort of meaning, I may mention the stick which serves the small boy as an imaginary horse.

The point here is of such fundamental importance and

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[1]The literature of this topic is vast; the topic itself constitutes one important side of the philosophical systems since Plato. Among recent discussions of the fundamental value category those of W. M. Urban and A. P. Brogan are quite suggestive. (See articles by these two thinkers in *The Journal of Philosophy*, Vols. XIII-XVII.) The problem is, of course, one of great intricacy. A survey of the present status of the theory of value may be found in the lecture by D. W. Prall printed in *Issues and Tendencies in Contemporary Philosophy*, University of California Publications in Philosophy, Vol. IV.

is so contrary to a rather marked tendency of very recent psychological thought, you will permit me briefly to elaborate it. We all recognize a difference between what is ordinarily called rote memory, on the one side, and logical memory, on the other. The difference is easily illustrated. My first efforts to memorize the multiplication tables consisted largely in mere repetition of the tables as they were printed in a book; and when I was called upon to close the book and render an account of my stewardship by giving the product, say, of "nine times nine," I would either have to image the page on which the product was printed or get a "running start" by beginning back at the first of the table. This was, we should say, rote memory. Later, however, I retained the product of "nine times nine" after a different fashion. I succeeded in placing it in its logical order within the system of numbers, and could then recall it without any reference to its context either in the field of vision or in the field of the activity of the organs of speech involved in its commitment. For the time came when I glimpsed the wonderful truth that the formidable "nine times nine" is identical in principle with the equation "one times one is one," which always seemed somehow simple. My memory had at length become logical. Professor Thorndike notes the same distinction when he differentiates between two sorts of attention. "There ought," he writes, "to be a separate name for attention when working for immediate practical associations. It is a different species from that which holds objects so that we may define them, think about them, remember them, etc. . . . The one sort of attention leads you to think about a thing, the other to *act* with reference to it."[2] And Professor Morgan describes the same fact, though in different language: "Intelligent control is due to the operation of the results of experience without the intervention of any generalized conception or ideal. In ra-

[2] *Animal Intelligence*, p. 145.

tional control such conceptions and ideals exert a controlling influence. If, to prevent a boy sucking his thumb, we administer bitter aloes, we trust to intelligent control through the immediate effects of experience; but if he be induced to give up the habit because it is babyish, he so far exercises rational control."[3] Professor Thorndike's distinction between the sort of attention which leads you to act and that which leads you to think, and Professor Morgan's distinction between intelligent and rational control are, in principle, identical with the distinction between rote and logical memory. And all alike are examples of a very common feature of the mental life.

Now this distinction marks different levels of mind. The meanings at one level may be fairly completely compassed in terms of purely bodily movements. Rote memory, the attention which leads only to acts, intelligent control, and all similar examples of that level of mental development are ways of behaving and little more. But logical memory, attention that involves thinking and evaluating, rational control, and similar experiences are different. They involve what Professor Morgan refers to as generalized conceptions or ideals. The level of mind built around those meanings that may be described in terms of bodily responses we may for our present purpose name the physiological level. The level of mind built around those meanings that represent or point to an ideal scheme of knowledge or appreciation we may, in contradistinction, call the ideational level. And these latter meanings may be distinguished from the former by grouping them together under the name of *structures*. By structures, then, we shall henceforward understand those meanings around which the ideational mind is built and which function as parts of a context that can be

[3] *Animal Behaviour*, p. 60.

described only as a logical or quasi-logical system. Examples of them, to fix the point by once more noting concrete facts, are: the child's imaginary horse, the mathematician's numbers, the physicist's molecules and atoms, the artist's beauty, the biologist's neurones, and all other meanings that similarly imply an ideal scheme or system.

Both the physiological and the ideational levels of mind are undoubtedly exemplified within the ranges of human life; the earlier stages are primarily on the physiological level, while the later are primarily ideational. But we ordinarily think of the ideational level as typically human; and it is typically human in the sense that the highest achievements of the human mind, as exemplified in the arts and sciences, for example, are the clearest manifestations of it. Whether it is typically human in the sense that it is exclusively so, lying always beyond the reaches of the animal level, is quite debatable. I suppose there can be little doubt that animal mind runs primarily at the physiological level. But does it never mount above that level? Does the animal mind never envisage ideal schemes? Is it never woven around structures? At the present stage of our knowledge of animal behavior it would seem that nothing final can be said in answer to such questions, though those who know most about animal-kind are perhaps more than skeptical. But before we pass on to other matters, a word concerning the question whether animals reason may not be wholly futile.

As commonly debated where most frequently it is debated, namely, in popular psychology, the question whether animals reason would appear to be entirely trivial. And its triviality arises from the vagueness and aloofness from factual considerations of other than an anecdotal variety that mark the debate. As is common in such debates, everybody has something to say because nobody knows precisely what he is saying; and what one says has as much weight as what anyone else says, because each one is arguing on

the basis of what his own, or his neighbor's, pet cat or dog is supposed at some time to have done. But, to say the whole truth, there seem to be hardly less wide divergencies in more sober discussions of the matter; opinions even here vary from the extremely conservative one that would deny consciousness to animals and make of them mere animated machines to such wild extravagancies as are some of those that are supposedly based upon the certified rational performances of animals like the famous Hans horses. Descartes and Loeb, for example, would deny to the poor dumb brutes, not only the powers of rational reflection, but all conscious experiences; in their view the brutes could hardly be said to have minds in any sense that would clearly mark them off from sticks and stones. At the opposite extreme, Kindermann, for instance, has found to his own satisfaction that at least one dog, Lola by name, not only could participate in rational conversation at afternoon teas, but also, through her sense of smell, could detect in others, and even name, such subtle psychical moods as deceitfulness and sadness, could skillfuly solve rather intricate mathematical problems not excluding equations involving fractional numbers, and even on occasion could reason about knotty problems with such concentration that she would in consequence have a severe headache! For my part, I am inclined to suspect that Descartes and Loeb and those who think like them are too hard on the brutes, taking from them what Nature has given them; while I am confident that Kindermann and his kind are simply amusing themselves with groundless fancies by reading into the behavior of animals much more idealization than can soberly be held to be there. However that may be, I repeat my conviction that the problem of the reasoning power of the lower animals is one whose solution is to a very large extent a matter of definition of terms. In one interpretation it is fairly clear that practically all animals reason—in the sense, namely, of controlling their behavior intelligently, of profiting

by experiences and learning in consequence to do many things which heredity has not taught them to do. In another interpretation of reason, however, it is by no means clear that any animal except *homo sapiens* can reason; for there is as yet no convincing evidence that any animal below man has the capacity to entertain generalized meanings or to prevision behavior in the light of a conscious plan or ideal scheme. Whether reason may be interpreted in a sense different from both of these interpretations is a moot question. And with this we may, so far as our present discussion is concerned, dismiss the subject.

Converging attention now upon what we have above called structures, namely, those meanings that point to the context of an ideal scheme, or, in other words, meanings that are generalized, it is not difficult to see that some of them are primarily individual both in origin and significance while others are primarily social. Some, that is, are very unstably linked to the world of fact and are of importance to mind considered primarily in its biographical reference, while others have their genesis in the society of minds and are of concern to all minds alike. I say it is not difficult to see that such a difference among structures exists. To see it one has but to contrast, for instance, the child's fancied horse and the physicist's conception of an atom. In the one case you have a structure that is relative to an individual mind, imaginary, as we say, and of interest only to the child astride the stick and his chance playfellows; in the other case, however, you have a structure for which no single mind is responsible and which is of universal concern. The child's imaginary horse is only of the hour, and of the individual of the hour; but the physicist's atom is of the centuries and of the generations of the centuries. That there are meanings or structures of individual concern and others of general concern is, thus, readily seen. But to classify structures as primarily individual or primarily social and to read the full implications of the distinction is

much more difficult. I shall not here venture a classification further than to suggest that the earlier stages of the ideational level of mind are built around primarily individual structures; while practically all of the later stages, except those that grow around mere individual prejudice and bias, are focalized about primarily social structures—certainly this would seem to be true of those levels of mind that are expressed in the sciences, arts, religions, and business and legal systems in which are woven customs and traditions.

The point here to be specially emphasized is that our distinction between individual and social structures brings us at once to the lair of the social mind—the *bete noir* which has caused considerable perturbation in social philosophy at least since the days of Hobbes. I do not presume to say that we can readily lay the beast; but having aroused him we cannot with impunity retreat to cover, and our distinction seems to offer a promising weapon of defense. I shall first ask you briefly to look him over, and in the light shed by this distinction between individual and social structures I shall venture one shot at him.

Dropping our metaphor for the moment, we are here confronted by the long-felt and much debated theoretical difficulty arising from the society of minds—the difficulty, namely, of getting a workable conception of the nature of society and of the relation between society and the individuals that compose it. The *prima facie* view of the matter would seem to be that society is simply a vast collection of individuals, each of whom is motivated by considerations of self-interest and perhaps ultimately by considerations of individual pleasures and pains; and that it is the primary business of organized society to compel these antagonistic units to live together with as little friction and infringement of individual rights as possible. This is the view that underlies much of the social and political philosophy of the seventeenth and eighteenth centuries, as exemplified, for instance, in the writings of Hobbes, Bentham, and Adam

Smith. We may call this the atomistic view of society. The view, however, is incompetent. On the basis of it no satisfactory solution of the deeper problems arising in the field of social phenomena can be built; on the contrary, it leads theoretically, as it led historically, into all sorts of pitfalls such as the "contract" theory of the state, the identification of good with pleasure and of evil with pain, the irreconcilable antagonism between legal restraints and individual liberty, the largely mythological "economic man" of the older economic theories, and the formerly useful but quite questionable doctrine of "natural rights." The inadequacy of the atomistic view of society is in principle identical with the inadequacy of the atmostic view of mind. If mind cannot fairly be described as a mere collection of distinct and separate experiences, neither can society be adequately conceived as a mere collection of distinct and self-centered individuals. Such a conception of it simply will not work satisfactorily, as is evidenced by the inconsistencies that feature the developed views of many of its advocates.

Rousseau was among the first to recognize and insist upon the inadequacy of this view of society. He deliberately, though of course not at all consistently, set himself in opposition to it. And, withal, he succeeded in outlining another conception which later thinkers have agreed is much nearer the truth. In his more sober moments, when he could leave off his tirade against civilization and the woes it entails, he suggested that society is not a bare collection of self-centered individuals, but is rather an organization of socially inclined individuals. This view he expressed in his famous doctrine of a "general will," which he identified with the "real" will of all of the members of the group. The machinery he devised for the expression of this general will in the activity of the body-politic was inadequately conceived, nor did he always remain true to his deeper insights into the problem with which he was dealing; and one has no great difficulty in winning a comparatively

easy victory over Rousseau on these scores, as on many others. But what he did definitely accomplish was to direct attention to the superiority of a systematic, as over against the traditional collectivistic, conception of society, and to suggest with considerable show of evidence that true individuality is to be sought in a social will and not in a capricious will encased within an impenetrable shell of subjective isolation.

The claims of the systematic view of society were generally recognized and advocated during the nineteenth century, and these claims were greatly strengthened by the advent of the theory of evolution. It should be noted, however, that this view of society is, in its turn, not without its weakness; there lies within it (and that, too, very near the surface) the danger of magnifying the group at the expense of the individual, and of converting it into a sort of supra-personal police officer and censor. If society is something more than a mere collection of individuals, what is that something more? It is only too easy to suppose that society is something sundered from the individuals and standing, as it were, over against them. And when once this separation is made, the next step is all but inevitable: society, being somewhat mysterious, is more important than individuals and should, by right, lord it over them. This tendency towards the undue magnification of the group was not slow to grow to theoretical maturity as the systematic view of society gradually supplanted the older atomistic conception. It very soon issued in the Hegelian apotheosis of the state and all its later brood—including such diverse offspring as the extreme socialism of Marx and the Machiavellian doctrines preached by Treitschke and his disciple, Bernhardi, in behalf of a monumental absolutism. The "general will" of Rousseau thus developed into a Social Mind, written with initial capitals, and conceived as having an existence in its own right independent of, and superior to, the several minds of its constituent members. And this deified Social

Mind is the *bete noir* which, as suggested above, has caused such perturbation in the camp of those interested in the fundamentals of social theory.

Returning, now, upon the distinction drawn a while back between individual and social structures, we may take our parting shot at the beast. Society means, and so far as I am able to see can mean, nothing but social structures; in these structures alone mind as social is observable. In traditions and customs, in legal and business systems and practices, in morality, in the arts, in religions, in the sciences—here, or nowhere, social mind is found. But such structures do not exist sundered from minds in their biographical reference. It is true, indeed, that such structures cannot be baldly identified with the content of any individual mind; no mind at present inhabiting a body wholly encompasses that system which we call physics, for example—the science of physics exists as a structure of the social mind. But there is no social mind existing by itself apart of which physics is a structure. The social mind of which physics is a structure is nothing but a specialized interfunctioning of individual minds; it is, in our terminology, a system of individual minds. And this is true in regard to all similar structures. They are structures around which a number of psychologically distinct minds are focalized. Social mind, in short, is nothing but social structures of individual minds.

The point here may be put in somewhat bolder relief if we pause to fix the distinction, already made use of, between mind as biographical and mind as social and to state the point in terms of that distinction. By mind as biographical I mean mind as the biographer would deal with it, mind as created within a personal history. By mind as social I mean mind as expressed in customs, systems of law, the *Zeitgeist,* in whatever forms manifested. Now it is clear that there is in reality no sharp sundering of mind biographical and mind social. Among human beings, at least

at the ideational level, the only way in which minds biographical can grow is by entwining themselves around social structures; while mind as social emerges out of, and is inseparable from, the coöperative working of minds biographical. In short, biographical minds and social minds are simply two aspects of one and the same process—the discovery of systems of meaning.

If this be true, then it at once appears that Social Mind conceived as an entity existing high and lifted up in a sphere all its own, is only an empty abstraction, and it cannot be given content by the simple device of writing it with capitals. As so conceived, mind as social is open to precisely the same criticisms which we have advanced against the view of biographical mind as sundered from concrete experiences. Mind social is the interlocking of minds biographical around special types of meanings; it is biographical minds systematized, just as a given biographical mind is experiences systematized. Conceived in this manner, social mind is just as real as any other observable level of mind; in this description it has genuine significance, and to deny its existence would be a serious error. All that can be justly denied is its attenuated existence as a sort of super-personal entity; in this description, I repeat, social mind is a vacuous abstraction.

The other side of the picture must not be overlooked. If the social level of mind cannot be sundered from biographical minds, it is equally true that at least the higher reaches of the ideational level of minds biographical cannot be supposed to exist by themselves apart. These reaches are attainable only through social structures. No individual can attain the scientific level of mind, for example, whose mind is not built around social structures; he who is ignorant of what has been thought and done in a given science has not attained the scientific level so far as that particular science is concerned, nor can he attain it until this ignorance is removed. To be a scientist one must first of all know what

other scientists in his chosen field are thinking; he must know their discoveries as well as their theories; he must, in short, compass the structures that constitute the content of his science. To the extent that he fails of this, whether through lack of diligence or through lack of ability, to that extent he is not truly a scientist. This, I take it, is fairly obvious. But it is, or should be, equally obvious that precisely the same principle holds all along the line. Where the biographical mind fails to link itself with the social order, in whatever field of inquiry or activity, it fails to run at the level which may be said to be the highest; sundered from its social matrix, it tends to sink back towards the purely physiological level. Biographical mind is essentially social in its genesis.

Of course it is impossible that any given mind should be thoroughly conversant with all social structures; if the time ever was it certainly has long since passed that one should, like Bacon, take all learning to be his province. Presumably, an ideal mind would know all that any mind knows or can know; but for us mortals such an ideal is impossible of attainment. It is clear, however, that each biographical mind can to some degree, if it is normal, wind itself around social structures; it not only can, it inevitably does, otherwise even common-sense opinions would be non-existent. The only question that confronts the normal mind is as to how far in this direction it will go. To the extent that it fails to go to the uttermost limits it is capable of traveling, to that extent it fails to reach the level which is possible even to its limitations. And, contrariwise, to the extent it pushes out into social structures and winds itself around them, to that extent it flows at other and presumably higher levels. The whole current of the ideational mind sets in the direction of social structures. And such, I am convinced, is the direction in which our educational practice should lead even more emphatically than it does now. If it be granted that the purpose of education is to carry the mind

out into those meanings which we have called structures; if, that is, education should concern itself primarily with the ideational mind; if, furthermore, the ideational level of mind is higher than the physiological level and through its normal activity runs to higher and higher levels within its own sweep; and if, finally, "higher" here means more valuable and worth while—if these three propositions be granted, then it seems inevitably to follow that the primary aim of education is to lead the mind towards social structures, towards those discoveries that are the joint product of social endeavor. For it is in this direction that the "higher" reaches of mind are found—reaches which must be attained if the biographical mind realizes its best potentialities. And this is true whether education is called "cultural" or "vocational."

But the time has now come to bring this lecture, and with it the series, to a close. And I shall do so by returning briefly upon a point which I mentioned at the beginning of the series. In the opening lecture I ventured to make the assertion that the problem of mind is logically fundamental to an antagonism of ideals which has run its course throughout human history and which we designate as the conflict between the ideals of radicalism and conservatism. The immediately preceding suggestions linked with the principles we have tried to develop in our course of discussions, would seem to justify this assertion and also to suggest the direction in which we may look for a sane resolution of the conflict.

The ineradicable element of truth involved in the ideal of conservatism lies within the indissoluble relations we have just sketched between mind biographical and mind social. No biographical mind can shut itself off from social structures and at the same time rise far in the grades of mind. The *status quo* has its value in mental evolution, and that value cannot be overlooked. If it is going too far to say that wisdom is with the past, the statement is not wholly

false. Certainly wisdom is not born with the individual, nor is it created by him; it is not encompassed entirely within the reaches of his mind, however far they may run, nor will it disappear with his death. The emphasis placed by the conservative upon existing ideals and institutions is without question well-placed. On the other hand, mind runs; its being is its becoming. And here is the bedrock upon which the ideal of radicalism rests. Even though there be wisdom in the accumulated structures of the ages, it is not fixed and immutable. Mind is on the wing, its voyage of discovery is never completed, and its voyagings inevitably bring their changes; the structures through which mind ramifies and in which it finds its systematic growth cannot themselves be static. The habitat of mind is not a place; it is a process.

Both ideals are therefore partly justified, if the principles we have developed are to be allowed to stand. These ideals become erroneous when they are separated from each other and each neglects the element of truth which the other contains. Each needs precisely the corrective that the other offers. The conservatism that would quench individual initiative and hold mind biographical to a constant level thereby runs counter to the very activity with which, as we have argued, mind must be identified; such conservatism spells stagnation, and, consequently, death to mind. The radicalism that would set aside social structures and seek the leadings of mental development within a biography abstractly conceived, thereby takes from mind that continuity which it demands and apart from which it is, at best, idiosyncratic, and, at worst, abnormal. A union of the two ideals is the only justifiable solution of the antagonism if the main burden of this very hasty survey of the life of mind is even partially sound. Stability is desirable, but not fossilization; criticism is necessary, but not inanities. The mind that would strive towards the realization of its own deeper life tries first to comprehend and then to criticize;

first it winds itself around structures, and then, if its basal drift forces it so to do, it revises them. For the life of mind is a process of system-building, a voyage of discovery through the structures of the world.

APPENDIX I

In the recent series of lectures by Mr. Bertrand Russell entitled *The Analysis of Mind*,[1] there is developed a view of mind which in many respects is opposed to the view advocated in the preceding survey. Particularly does his argument stand in opposition to the conception of mind as system, and it is upon this side of his argument that I wish to converge attention in this brief critical reference to his analysis. Such a criticism will at least serve to emphasize one side of the view advocated in the preceding discussion. The thesis here to be defended is that the inconsistency into which Mr. Russell falls in his treatment of "mental action" is to be solved only on the admission that mind is system. And, first, let us note the inconsistency.

In his introductory lecture on "Recent Criticisms of 'Consciousness,'" Mr. Russell takes issue with the result of Meinong's analysis of thinking. According to Meinong, there are three elements involved in thinking of an object, namely, the act, the content, and the object. "To make this theory concrete, let us suppose that you are thinking of St. Paul's. Then, according to Meinong, we have to distinguish three elements which are necessarily combined in constituting the one thought. First, there is the act of thinking, which would be just the same whatever you were thinking about. Then there is what makes the character of the thought as contrasted with other thoughts; this is the content. And finally, there is St. Paul's, which is the object of your thought . . . the three elements of act, content, and object are all required to constitute the one single occurrence called 'thinking of St. Paul's.'"[2]

Now the "act" of thinking, which Meinong's analysis reveals, Mr. Russell unequivocally repudiates. "Empirically," he says, "I cannot discover anything corresponding to the supposed act; and theoretically I cannot see that it is indispensable. We say: 'I think so-and-so,' and this word 'I' suggests that thinking is the act of a person. Meinong's 'act' is the ghost of the subject or what once was the full-blooded soul. It is supposed that thoughts cannot just come and go, but need a person to think them. Now, of course, it is true that thoughts can be collected into bundles, so that one bundle is my thoughts, another is your thoughts, and the third is the thoughts of Mr. Jones. But I think the person is not an ingredient in the single thought: he is rather constituted by relations of the thoughts to each

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[1]First published in 1921; reprinted in 1922.
[2]*Analysis of Mind*, p. 17

other and to the body. . . . The grammatical forms 'I think,' 'you think,' and 'Mr. Jones thinks,' are misleading if regarded as indicating an analysis of a single thought. It would be better to say 'it thinks in me,' like 'it rains here'; or, better still, 'there is a thought in me.' This is simply on the ground that what Meinong calls the act in thinking is not empirically discoverable, or logically deducible from what we can observe."[3]

In a later lecture on "Belief," Mr. Russell discovers what he calls a *bona fide* case of mental action. "We must distinguish between believing and what is believed," he there tells us. "I may believe that Columbus crossed the Atlantic, that all Cretans are liars, that two and two are four, or that nine times six is fifty-six; in all these cases the believing is just the same, and only the contents believed are different. I may remember my breakfast this morning, my lecture last week, or my first sight of New York. In all these cases the feeling of memory-belief is just the same, and only what is remembered differs. Exactly similar remarks apply to expectations. Bare assent, memory, and expectation are forms of belief; all three are different from what is believed, and each has a constant character which is independent of what is believed." Thus Mr. Russell's analysis reveals in belief something very like an act; he calls it "the believing." But the objections to the act in thinking, he explicitly informs us, "are not valid against the believing in the case of beliefs, because the believing is an actual experienced feeling, not something postulated, like the act."[4]

Now, at the very beginning of his lecture on belief, Mr. Russell asserts that "the whole intellectual life consists in beliefs, and of the passage from one belief to another by what is called "reasoning."[5] And as we follow his analysis, we discover in detail the justification for this assertion. It turns out that there is apparently no aspect of the cognitive life from which beliefs are absent, or, at least, none in which they may not be present. We learn that beliefs may occur in perception; that memory, expectation and bare assent are only three specific kinds of belief; and that there may be belief-feelings even in disjunction and implication. Indeed, led on by Mr. Russell's analysis, one is at a loss to imagine from what mental attitudes the belief-feeling is necessarily excluded, unless it be those attitudes that spring from pure instinct alone or from that kind of desire or aversion—if there be such—which can in no sense be said to involve perception and memory. Certainly, on Mr. Russell's own

[3] *Op. cit.*, pp. 17, 18.
[4] *Ibid.*, pp. 232-238.
[5] *Op. cit.*, p. 231.

showing, all of the more strictly cognitive attitudes appear to be irremediably contaminated by the belief-feeling.

From this analysis three main propositions seem to emerge. First, there is positively no act in thinking; such an act is neither observable nor deducible from what is observed, and it is consequently "unnecessary and fictitious." Second, there is in belief an immediately observable, not postulated, quasi-act which on analysis turns out to be a sort of feeling—a belief-feeling, the "believing." Third, beliefs are constituent elements of the cognitive experiences—"the whole intellectual life consists of beliefs." Confronted by these three propositions, one finds oneself face to face with what looks decidedly like a flat contradiction. Juxtaposed they sound as if it were being maintained in the same breath that there is no act in thinking, and yet that there is an act in thinking. Beliefs are involved in cognitive processes, and in the case of beliefs believing as something separable from content is always observably present; nevertheless, the act in thinking is a purely gratuitous assumption, and as such must be banished into the outer darkness where lie other similar by-gone superstitions such as the "soul" and its "faint rumor left behind upon the air of philosophy," the "subject" or consciousness.

So far as I can see, the most promising way of escape from this contradiction left open to Mr. Russell lies through certain hard and fast distinctions. On the one hand, he may seek relief by falling back upon his old distinction between knowledge by "acquaintance" and knowledge by "description." On the other hand, he may try to avoid the difficulty by differentiating between the "act" in thinking and "the believing" in the case of beliefs. These distinctions do more or less obviously play their part in his discussion, and by means of them he apparently seems to feel that he is saved from inconsisetncy. But unless I am mistaken, neither distinction is in the end justifiable, and they lead alike into a blind alley.

In the present context there is no need to pursue this point into its manifold ramifications. As regards the sterility of these distinctions, the following summary remarks must here suffice. In the first place, thought as "presentation"—which is the sort of thought in which Mr. Russell finds no evidence of an act—is not thought in the meaning of the term most commonly understood by those who hold that there is an act in thinking; they discover the act primarily in mediate, certainly not exclusively in immediate, thinking. In the second place, the "believing" in belief is precisely what is meant by the "act" in thinking by many who insist upon the existence of such an act. To make the hard and fast distinctions above suggested,

therefore, is of no avail so far as the problem in debate is concerned. If I hold that there is an act discoverable in mediate thinking, and you retort by denying that there is any such act in immediate thinking, your answer can hardly be said to have touched the point of my thesis; it is largely irrelevant. Likewise, if I contend that the act in thinking is a feeling that *A* is *B*, that Columbus crossed the Atlantic, or that all Cretans are liars, and you take issue with me by asserting that this is a "believing" and not an act of thinking, then the difference between us threatens to reduce itself to a mere logomachy—always except, of course, in so far as the very important question concerning the justification of the distinction underlies the dispute. And there seems no sound reason for supposing that thinking and belief are so sharply sundered that what is observably true of the one is observably false in the case of the other; this Mr. Russell himself is in the end forced to admit.

But the important aspect of the matter which here most concerns us is the implication of Mr. Russell's difficulty with reference to the general problem of mind. And that implication can perhaps be most clearly disclosed by a survey of the conditions that generate his inconsistency.

As one follows Mr. Russell's analysis, it becomes increasingly clear that there is involved in it, as basic to it, the initial assumption that mind is little more than an aggregation of disparate types of mental phenomena; that mind, in short, is a collection, and not a system, of experiences. And this assumption is, I think, the cause of his whole trouble. That the assumption is operative in the analysis is clear enough. The analysis aims to reduce the types of mental phenomena to as few basal types as possible; but meanwhile, and as a means to this end, each type is handled as though it were separable from all others and adequately describable when taken thus in its lone isolation. So we are confronted in the course of the analysis by perception *and* memory *and* desire *and* meaning *and* images *and* beliefs *and* thinking—all conceived as nicely cut off from each other, connected only by the additive relation, and thoroughly intelligible each in its abstract singleness. But Mr. Russell's practice is much better than his preachment. When he enters definitely into the concrete ranges of observable data his never-failing respect for facts forces him to admissions that are poorly in accord with his basal assumption. When he translates the several general types into specific processes, when for thought or thinking in general he substitutes a specific instance of thinking and when from belief in general he descends to a definite belief-experience, these supposedly disparate types of mental phenomena begin forthwith to cut across each other in a peculiarly disconcerting manner. Perception insists

upon running over into the territory reserved for memory alone; meanings, ideas, and words refuse to remain separate and distinct; while belief and thought, merging irresistably into each other, threaten to trespass with impunity upon all preserves. Concretely viewed, the sundry types will not stay put in their molds; they refuse to remain static long enough to be counted, itemized and pigeonholed as individual and disaparate entities or atoms. They forget their independent dignity and insist upon interpenetrating. And just here we discover the chief ground of Mr. Russell's inconsistency in his treatment of thought and belief. Taken as sundered by the whole diameter of being, thinking and believing are such that no assertion about the one has any relevancy to the other; even the most fundamental characteristic of the one may be denied of the other without the slightest inconsistency, since it is simply a question of fact as to what characteristics belong to each, and those of one may in fact be quite different from those of the other. But thinking and believing cannot in the end be thus taken. Just as soon as they are made concrete, that is, when they are taken as full-blown processes of thinking and believing, they inevitably merge into each other; thinking is a way of believing, and believing is an attribute of thinking, and what is fundamental to the one cannot without contraction be denied of the other.

If this diagnosis of Mr. Russell's difficulty is in principle sound, then he is brought into court as a witness (unwilling, perhaps) to the interweaving of the experiences of mind, just as Hume was before him, and just as all upholders of the atomistic view of the mental life must in the end be. Mind is a process of system-building, and its sundry experiences are so intertwined that they cannot be separately described and analyzed, as one might describe articles on a shelf one after the other. Such seems to be the indisputable fact, and there is no apparent road around it; those who most persistently try to find one, despite their fascinating and brilliant subtlety, are finally stopped short enmeshed in a net of contradictions.

One other suggestion pointing in the same direction concerns the general problem of mental action. This problem, I venture to affirm, will continue to remain a cul-de-sac so long as mental action is assumed to be a sort of entity swathed in particularity. What is needed as a prerequisite to a fruitful discussion of the problem is a more intelligible conception of the act whose existence is in question; it must be viewed as a particularized expression of the system of mind, and not as a function existing in its own right and directly observable.

As Mr. Russell supposes, the act is something which is or is not directly and immediately observable or directly deducible from what

is observed. It is a particular something-or-other, if it have any existence, of which one may say, "Lo, here!" or "Lo, there!" And in this supposition Mr. Russell is only following the line of procedure which has become traditional in recent debate of the problem. Both those who believe in the "act" and those who deny its existence are agreed that it must be held to be a sort of particular which with stately tread is supposed to march along beside experiences and of which one may perchance get a glimpse by beating vigorously about the field. Conceived in this manner, however, the act becomes a very elusive sort of thing in support of which no evidence can be advanced other than that furnished by a kind of introspection whose deliverances are always open to question since they lie beyond the reach of ordinary logical criteria. The act thus gets itself reduced to a sort of will-o'-the-wisp which to some is as clear as the day and to others is wholly invisible. Those of the agile introspective glance now and again exclaim: "There it is, I see it clearly and distinctly!" But the slow-minded plodding doubters are always ready with the reply of the father to the child in the Erlking: *"Mein Sohn, mein Sohn, ice seh es genau, es scheinen die alten Weiden so grau."* And what possibility is there of deciding between the disputants? Some think they observe the pure act with that degree of clarity that would delight the heart of Descartes himself; while others are equally clear that nothing is observable except the gross experience. And so we rest in an apparently insoluble contradiction. Even in the ranks of the believers there are more or less wide divergencies of view concerning the nature of the act, and the evidence offered in support of one view is about as weighty as that offered for another, since all alike depend upon the report of a direct introspective glance. The only way out of this wearisome treadmill is, so far as I can see, *ab initio* to give the debate a content; and this cannot be done until the "act" is admitted to be something quite different from a sort of entity that is to be discovered, if at all, as an object of the moment's look.

As an alternative, I suggest the view of the "act" which conceives it as the manifestation in specific instances and under definite circumstances of the organziation of mind. In this conception of it the mental act is not a separate and self-contained entity or a speck of psychic substance or a deed of a psychic agent to be noted and described through the glance of the moment. It is rather adjectival in nature, being nothing but the manner in which definite experiences interpenetrate and modify each other. The act in thinking that twice two are four, and that Charles I died in his bed, for example, is, I suggest, not something sundered from these experiences and standing

over against them as an agent; it is rather precisely the interpenetration of the experiences which makes this thought or belief possible —better, which *is* this very thought or belief. The act, thus, is an adjective and not a noun; it is a characteristic of mental phenomena or experiences as interweaving.

On the basis of this view of the act, disputes whether it is or is not an object of direct knowledge through the introspectice glance, are beside the point. Granting that the act is not thus directly observable, still no relevant objection has been raised to its existence; for it exists, not as an entity, agent or object of direct observation, but as a quality of the dovetailing of experiences. Furthermore, if this view be accepted, the problem of the act is inextricably bound up with the problem of unity of mind, and in some important sense this latter problem would seem to be logically fundamental to it; to separate the problem of the mental act from the more general question of the system of mind is to make the problem of the act so hopelessly abstract as to be practically meaningless and to invite endless dispute as to its solution. The "act" of mind and the system of mind are two questions that cannot be sundered without vicious and fateful abstraction. Either the act is to all intents and purposes a meaningless term, or it is the projection of the system of mind into the concrete flow of experiences. In the first case, debate concerning either its existence or its nature can at best be but a bloodless battle; in the second case, the act transcends the reach of the introspective glance and takes on the features of something like a scientific hypothesis.

APPENDIX II

The view of mind advocated by the Italian thinkers, Benedetto Croce and Giovanni Gentile, has much in agreement with the view suggested in the preceding lectures. But there is also a difference of importance, a word of emphasis upon which may serve to direct attention to another fundamental consideration in connection with the problem and also to suggest another side of the literature quite different from that represented by Bertrand Russell's *Analysis of Mind.* As typical of this outlook on the problem I shall take Gentile's *Theory of Mind as Pure Act.*[1]

The basal point of agreement between the two views lies in the emphasis placed by each upon the necessity of identifying mind with concrete experiences. Gentile's statement: "In our view mind has no existence apart from its manifestations; for these manifestations are according to us its own inward and essential realization" is completely in the spirit of the above discussion. And it is also in agreement with the historical tradition from Hume, standing as it does in direct opposition to the "substance" view of the soul. Furthermore, the main reason offered by Gentile for the identification of mind and its manifestations is that emphasized above, namely, because mind otherwise is unintelligible and void. "As love is loving and hate is hating, so the soul which loves or hates is no other than the act of loving or hating. . . . To imagine ourselves simple passive spectators of our soul, even after a spiritual life intensely lived, full of noble deeds and lofty creations, is to find ourselves inert spectators in the void, in the nought which is absolute." And all of this is decidedly reminiscent of Hume's diatribe against the "self" as a hidden and elusive entity. Gentile is agreed, further, that this position necessitates the conclusion that mind is dynamic, that activity is one of its basal features. "In the world of mind nothing is already done, nothing is because it is finished and complete; all is always doing. . . . Mind, according to our theory, is act or process, not substance. . . . There is just so much mind, just so much spiritual wealth, as there is spiritual life in act. . . . To stop is to shut our eyes; not to remain an inactive soul but to cease to be a soul."[2] In all of this there is no essential difference between Gentile's view and my own. There is

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[1]English translation by H. Wildon Carr, London, 1922.

[2]These quotations are from Chapter III of Gentile's book. The distinction drawn by the author between the "empirical" and the "transcendental" ego (Chapters I and II, especially) is rather puzzling, but I think there is involved in it no principle that vitiates the agreement between his view and the one advanced above.

elsewhere, however, at least one clear-cut difference on crucial matters.

"Ordinarily we think," Gentile writes in one place, "that we are responsible for what we do and not for what we think. We suppose that we could not think otherwise than as we think, that though indeed we may be masters of our conduct, we are not masters of our ideas. They are only what they can be, what reality makes them. This common belief, held even by many philosophers, is a most serious error. Were we not the authors of our ideas—that is, were our ideas not our pure actions, they would not be *ours*. It would be impossible to judge them, they would have no value; they would be neither true nor false." This passage might be matched by others of similar import; it, in fact, indicates the direction in which Gentile's whole conception of mind as pure act leads, as he himself is aware: "We may sum up our doctrine as the theory that mind, the spiritual reality, is the act which posits its object in a multiplicity of objects, reconciling their multiplicity and objectivity in its own unity as subject. It is a theory which *withdraws from mind every limit of space and time and every external condition.*"[3]

Whether Gentile's position here is sound or not, it is in any event diametrically opposed to the view which I have above ventured to defend. For the implication of Gentile's contention, indeed the explicit emphasis of it, is that mind must live unto itself alone, that its life must be its own pure activity originating exclusively within and wholly free from any sort of external compulsion or necessity, that its ideas must in very truth be its own in the sense of not being determined by reality. For us, on the contrary, this is the exact opposite of the truth, as a glance at our consideration of the levels of mind discloses. Meanings, we have there argued, are guides and not servants; ideas, we have insisted, are discovered by the mind and not made; they are nature's ways of speaking to us, and we are primarily the instruments through which they speak. To withdraw from mind "every limit of space and time and every external condition" would be, in our view, to destroy it; whereas, in Gentile's construction, this seems to be the very breath of life to mind.

The point at issue here is of basal significance for a theory of mind. Whether mind is a law unto itself or is the focalization of systems of

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[3] *Theory of Mind as Pure Act*, p. 242 (italics mine). The first quotation is from pp. 33, 34. Compare the passage on dreams (pp. 105, 106), the section on "absolute formalism" (pp. 242, 243), and the following sweeping statement: "The problem of the Nature which mind finds always confronting it and therefore holds to be a presupposition of its own being, is identical with the problem of pain, of error, and of evil" (p. 248). For his treatment of the problem of evil and error see pp. 244-248. There is much here that seems to be reminiscent of Fichte.

laws, whether it knows no external necessity or is bound thereby, whether it grows exclusively from within or is partly also, and even perhaps largely, a process of appropriation, whether it creates its meanings or discovers them—these questions touch upon crucial matters, and their answers are fraught with issues of far-reaching scope. They have, of course, been discussed vigorously in the philosophical debate of the problem; and I venture to suggest that the position taken by Gentile has by that debate been shown to be outgrown. The factual considerations, at any rate, certainly seem to lie against it.